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HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES.
JANUARY—JUNE,
1857.

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THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING
A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED
IN THE PRECEDING SIX MONTHS;
TOGETHER WITH A
SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND
THE COLLATERAL SCIENCES DURING THE SAME PERIOD.

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Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
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Vierteljahrsschrift für die Praktische Heilkunde.
Zeitschrift für Rationelle Medicin.

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Annali Universali di Medicina.

N.B. Every periodical here specified is consulted *directly* by the Editors and their Coadjutors.

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CONTENTS OF VOL. XXV.

PART I.—MEDICINE.

I.—*General Questions in Medicine.*

(a) *Hygiene.*

	P A G E
1. On the protective and modifying power of Vaccination. <i>Dr. Seaton</i>	1
2. Our losses in the Crimea. <i>Col. Tulloch</i>	4
3. On the Climate of the Crimea. <i>Dr. Smart</i>	7
4. On London Milk. <i>Dr. Hillier</i>	9
5. On Calcutta Pork. <i>Mr. ——</i>	10

(b) *Acute Diseases.*

6. The “Rose-spots” in Fever and their metamorphoses. <i>Dr. Addison</i>	10
7. Examination of the urine in Typhus, with the effects of Coffee upon that secretion. <i>Dr. Parkes</i>	12
8. The remittent Fever of London. <i>Dr. Peacock</i>	19
9. On the study of some Epidemic Diseases. <i>Dr. Milroy</i>	22
10. The therapeutic effects of Charcoal in Measles and Cholera. <i>Dr. Wilson</i>	23
11. On Hæmaturia after Scarlet Fever. <i>Dr. Basham</i>	26

(c) *Chronic Diseases.*

12. Salt in Intermittent Fever. <i>Dr. Moroschin</i>	29
13. Arsenic in Rheumatic Gout. <i>Dr. Fuller</i>	29
14. On Rheumatic Tenosynitis. <i>M. Chassaingac</i>	30
15. The constitutional treatment of Cancer. <i>Mr. Weedon Cooke</i>	30
16. Relation of Cancer to Tuberclse. <i>Mr. J. Z. Laurence</i>	32
17. A case of Fatty Degeneration of the Voluntary Muscles. <i>Mr. Leggatt</i>	33
18. Atrophy of limited Groups of Muscles. <i>Dr. Brittan</i>	35
19. Diagnostic Value of the Hydatid Sound. (1) <i>Dr. Markham</i> and (2) <i>Dr. Little</i>	39

II.—*Special Questions in Medicine.*

(a) *Concerning the Nervous System.*

20. The influence of Season upon Brain-disease. <i>Dr. Robert Boyd</i>	41
21. Effects of Mental Labour upon the Blood <i>Dr. Theo. Thompson</i>	42
22. On Cerebral Abscess. <i>M. Lebert</i>	43

CONTENTS.

ART.		PAGE
23.	A case of Abscess in the Cerebellum. <i>M. Dupuy</i>	45
24.	A case of Rupture of the middle Meningeal Artery. <i>Mr. Henry Watson</i>	46
25.	Arsenic in Intermittent Mania. <i>M. Moreau</i>	47
26.	On Chloroform in Delirium Tremens. <i>Dr. Richardson</i>	48
27.	Biniiodide of Mercury in certain forms of Epilepsy. <i>Dr. Fuller</i>	48
28.	Tetanoid symptoms arising from Morphia. <i>Dr. C. J. Shearman</i>	49
29.	Camphor in the tetanoid symptoms arising from Strychnia. <i>Dr. G. W. Annett</i>	50
30.	On Chorea and its affinity to Rheumatism. <i>Dr. A. B. Snell</i>	51
31.	Treatment of Chorea by Splints. <i>Dr. T. L. Monahan</i>	53
32.	Partial Narcotism in Laryngismus Stridulus. <i>Mr. Thos. Paget</i>	53
33.	Tonic Spasm in the Hands and Feet. <i>Dr. Tobiasen</i>	54
34.	Valerianate of Ammonia in Neuralgia. <i>Dr. Declat</i>	56
35.	Local injection of Morphia in Neuralgia. <i>Mr. J. Oliver</i>	58
36.	The pathology of some forms of local Nervous Disorder. <i>Dr. George Robinson</i>	59

(b) Concerning the Respiratory System.

37.	Five cases of Tracheotomy in Croup, with remarks. <i>Dr. Fuller</i>	61
38.	On Oedema Glottidis resulting from Typhus Fever. <i>Dr. T. A. Emmet</i>	64
39.	On the pathology of Catarrh. <i>Dr. H. Salter</i>	64
40.	On the use of Belladonna in Hooping-cough. <i>Dr. Turnbull</i>	68
41.	Two cases of Thoracentesis. <i>Dr. Aran</i>	69
42.	Remarks on Thoracentesis, based on 132 cases. <i>Dr. J. A. Brady</i>	70
43.	On the value of the red line of the gum as diagnostic of Phthisis. <i>Dr. Saunders and Dr. J. C. Draper</i>	73
44.	On the nature of Phthisis, and especially of the pre-tubercular stage. <i>Dr. E. Smith</i>	76
45.	On the arrest of Phthisis. <i>Dr. E. Smith</i>	77
46.	On the diagnosis of Pulmonary Cavities. <i>Dr. Friedreich</i>	82
47.	A case of Peri-tracheal Deposit, &c. <i>Dr. Brinton</i>	83
48.	On Vesicular Emphysema of the Lungs. <i>Dr. Jenner</i>	86
49.	On the danger of Artificial Respiration in the prone position. <i>Dr. Marshall Hall</i>	87
50.	The fatal tendency of the Warm Bath in Asphyxia. <i>Dr. M. Hall</i>	89

(c) Concerning the Circulatory System.

51.	The relation of Cataract to Heart-disease. <i>Mr. T. F. Jordan</i>	91
52.	Can an open foramen ovale produce a bruit? <i>Dr. Markham</i>	93
53.	Two cases of Paracentesis Pericardii. (1) <i>M. Troussseau</i> and (2) <i>M. Vernay</i>	95
54.	Cases of Pneumatosis. <i>Dr. Marston</i>	97
55.	On the Sphygmoscope. <i>Dr. Scott Alison</i>	98

(d) Concerning the Alimentary System.

56.	Glycerine and Borax in Cracked Tongue. <i>Dr. Brinton</i>	100
57.	On Perforating Ulcer of the Stomach and Bowels. <i>Dr. J. B. Harrison</i>	101
58.	Chloroform in obstinate Regurgitation. <i>Dr. J. E. Taylor</i>	101
59.	Case of Gangrene of the Liver. <i>Dr. Banks</i>	104
60.	Case of Dislocation of the Spleen. <i>Dr. Helm</i>	106
61.	Ergotine in Epidemic Diarrhoea. <i>M. Massola</i>	107

(e) Concerning the Genito-Urinary System.

62.	Hæmaturia produced by Mental Emotion. <i>Dr. Basham</i>	107
63.	On the pathology of Mellituria. <i>Dr. Garrod</i>	109

CONTENTS.

IX

ART.	PAGE
64. On the influence of Cerebral Maladies upon Saccharine Urine. <i>Dr. E. Leudet</i>	110
65. On the Collateral Symptoms of Mellituria. <i>Dr. Garrod</i>	111
66. On Gangrene in connection with Mellituria. (1) <i>Dr. Marchal</i> and (2) <i>Dr. Garrod</i>	112
67. On the prognosis of Mellituria. <i>Dr. Garrod</i>	113
68. On the treatment of Mellituria. <i>Dr. Garrod</i>	114
69. On a new mode of treatment in Mellituria. <i>Dr. Piorry</i>	115
70. On the Bran-loaf for Diabetic Patients. <i>Mr. Camplin</i>	116
71. A case of Persistent Sarcina in the Urine. <i>Dr. J. W. Begbie</i>	117
72. Rupture of the Bladder from over-distension. <i>Mr. G. A. Field</i>	119
73. Veratria and Morphia in Incontinence of Urine. <i>Dr. T. Kennard</i>	120
74. Lead in the Urine in Lead-poisoning. <i>Dr. Sieveking</i>	121
75. On the treatment of Pertes Séminales. <i>Dr. Troussseau</i>	122

(f) *Concerning the Cutaneous System.*

76. On Contagious Furunculoid. <i>Dr. Laycock</i>	125
77. On circumscribed Atrophy of the Skin. <i>Dr. Reuss</i>	130
78. On the Tache Meningitique. <i>Dr. Baines</i>	130
79. On the prevention of Pitting in Smallpox. <i>Dr. Reward</i>	131
80. On the Secondary Eruption following Smallpox. <i>Mr. Ross</i>	133
81. Case of Sclerema. <i>Dr. M'Donnell</i>	136
82. On the use of Guano in Skin-diseases. <i>Dr. Schramli</i>	138

PART II.—SURGERY.

I.—*General Questions in Surgery.*(a) *Concerning Inflammation.*

83. On the topical application of Iodine in Hospital Gangrene. <i>M. Surdun</i>	139
---	-----

(b) *Concerning Tumours.*

84. Illustrations of the pathology of Cancer. <i>Mr. J. L. Laurence</i>	139
85. On the cancerous degeneration of Warty Excrescences. <i>Mr. Butcher</i>	142
86. On the removal of Tumours. <i>Dr. Simpson</i>	143
87. Topical application of Nitrate of Potass in certain Erectile Tumours. <i>Dr. Mangenot</i>	143

(c) *Concerning Wounds and Ulcers.*

88. On the Ligature of Arteries in suppurating Wounds. <i>M. Nélaton</i>	144
--	-----

(d) *Concerning Diseases of the Blood-vessels.*

89. The treatment of Varicose Veins by Caustic Issues. <i>Mr. Holmes Coote</i>	144
--	-----

(e) *Concerning Diseases of the Bones and Joints.*

90. On forcible extension in partial Ankylosis. <i>Mr. Brodhurst</i>	146
--	-----

(f) *Concerning Anæsthetics.*

ART.		PAGE
91.	On certain remote effects of Anæsthetics. Dr. F. D. Lente	148

(g) *Concerning Operations.*

92.	On the flap and circular modes of Amputation. Mr. Hargreave	149
93.	On the comparative mortality of Amputations and Excisions. Mr. Thornton.	150
94.	On the use of Perchloride of Iron during operations. M. Maisonneuve	151

II.—*Special Questions in Surgery.*(a) *Concerning the Head and Neck.*

95.	On the local treatment of Granular Conjunctiva. Dr. C. S. Fenner	152
96.	On the use of Ferchloride of Iron in Panniform Keratitis M. Follin	155
97.	On the inutility of depletion in Syphilitic Iritis. Mr. Hamilton	156
98.	On sympathetic Inflammation of the Eyeball. Mr. Haynes Walton	159
99.	On the operation for Cataract in Gouty Persons. Mr. White Cooper	160
100.	On Hæmorrhage from the Eyeball. Mr. White Cooper	160
101.	On Hæmorrhage from the Eyeball. Mr. Haynes Walton	161
102.	On the treatment of Strabismus. Mr. Norman	162
103.	On the operation for Strabismus. Dr. Graham	163
104.	On the pathology of the Ear. Mr. Toynbee	164
105.	On Bleeding from the Ear after violence applied to the Chin. M. Morvan	165
106.	On Self-adjustable Artificial Tympanum. Mr. Yearsley	166
107.	A new Suture for Hare-lip. Mr. Wood	168
108.	On some of the ill effects produced by Carious Teeth. Mr. Samuel Smith	170
109.	On the treatment of Ranula. M. Gosselin	173
110.	On a Grooved Hook for Tracheotomy. Mr. T. Spencer Wells	173
111.	On the ready method in Choking. Dr. Marshall Hall	175
112.	Case of complete Dislocation of the Cervical Vertebrae, and successful reduction on the tenth day. Dr. Dan. Ayres	176

(b) *Concerning the Chest, Abdomen, and Pelvis.*

113.	Fracture of the Neck of the Scapula, and Coracoid Process. Mr. Brodhurst	178
114.	A peculiar Displacement of the Scapula. Mr. Brodhurst	179
115.	A case of Wounded Heart. Dr. Hernoux	179
116.	On Palpation of the Abdomen in certain cases of Strangulation. Dr. Marrotte	180
117.	On the valvular nature of Strangulated Hernia. Dr. Roser	181
118.	On the use of Tannin and Glycerine in Fissure of the Anus. Dr. Van Holsbek	182
119.	Prevention of Bleeding in operations upon the Rectum. Mr. Salmon	182
120.	Partial Amputation of the Penis by accidental linear écrasement. Mr. Wormald	183
121.	On the use of Chromic Acid in the treatment of Warts, &c., upon the Genital Organs. Mr. Marshall	183
122.	A remarkable case of Hydrocele. Mr. Lister	186
123.	On the treatment of Bubo. M. Broca	188
124.	On the Anatomy and Pathology of the Adult Prostate. Mr. Henry Thompson	189
125.	The radical cure of Unstrangulated Hernia. M. Gerdy	192
126.	A rectangular Catheter-staff for Lithotomy. Mr. Hutchinson	192
127.	A new method of operating in Impermeable Stricture. Mr. Syme	195
128.	On the treatment of Urethral and other Strictures by Guides and Tubes. Mr. Thomas Wakley	196
129.	The results of 100 Lithotomy Operations. Dr. V. v. Ivanchich	197

CONTENTS.

xi

(c) *Concerning the Upper Extremity.*

ART.	PAGE
130. Reduction of Dislocated Humerus by Manipulation without Extension. <i>Mr. Wormald</i>	198
131. On resection of the Elbow-joint by a simple long Incision. <i>Mr. Paget, Mr. Fergusson, and Mr. Erichsen</i>	199

(d) *Concerning the Inferior Extremity.*

132. On excision of the Hip-joint. <i>Mr. Erichsen</i>	200
133. On an American Splint for Fracture of the Femur. <i>Mr. Mansfield</i>	204
134. Case of Amputation at the Knee-joint. <i>Dr. Markoe</i>	205
135. On Excision of the Knee-joint. <i>Mr. Butcher</i>	208
136. Case of dislocation of the head of the Tibia forwards. <i>Dr. S. D. Gross</i>	210
137. On the most eligible situation for Amputation of the Leg. <i>M. Larrey and others</i>	211
138. Case of dislocation of the Metatarsus upon the Tarsus <i>M. Minonzio</i>	213
139. Cases of excision of the Os Calcis. <i>Mr. Greenhow</i>	213

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(a) *Concerning Pregnancy and Parturition.*

140. Case in which a Child was Born after the Death of the Mother. <i>Dr. Schillinger</i>	216
141. On the Utero-abdominal Tourniquet. <i>Dr. Humble</i>	217
142. On Puerperal Fever. <i>Dr. Murphy</i>	217
143. On the employment of Electricity in Suppression of Milk. <i>M. Becquerel</i>	219
144. On the use of Belladonna in arresting the Secretion of Milk. <i>Mr. Burrows</i>	220
145. On the Asphyxia of New-born Children and its treatment. <i>Dr. Marshall Hall</i>	221
146. On the Suckling and Feeding of Infants. <i>Dr. Küttner</i>	222

(b) *Concerning the Diseases of Women.*

147. On the age at which Hysterical Symptoms are developed. <i>M. Briquet</i>	225
148. On Sterility. <i>Mr. J. Baker Brown</i>	226
149. On Infra-mammary Pains. <i>Dr. Simpson</i>	228
150. A case of Cancer of the Mamma removed by a Painless Method. <i>Mr. Barwell</i>	229
151. On Iodine Injections in Uterine Haemorrhage. <i>M. Dupierres</i>	230
152. On Blistering the Cervix Uteri in certain uterine affections. <i>Dr. Johns</i>	231
153. A remarkable form of Prolapse of the Pelvic Viscera. <i>Dr. Montgomery</i>	233
154. On the use and abuse of Pessaries in Prolapsus. <i>Dr. Gibson</i>	234
155. Case of Retroversion of the Uterus. <i>Dr. Macleod</i>	236
156. On Ovariotomy. <i>Dr. Lyman</i>	238
157. A case of Vesico-vaginal Fistula treated with Bozeman's suture. <i>Dr. Wallace</i>	240
158. A case of Vesico-vaginal Fistula treated by bruising the parts. <i>Dr. Bertel</i>	242
159. A case of Quasi-Phlegmasia Dolens. <i>Mr. Henry Lee</i>	243

(c) *Concerning the Diseases of Children.*

160. On the Remittent Fever of Children. <i>Dr. J. Lewis Smith</i>	243
161. On the diagnosis of Apneumatoses. <i>Dr. G. Hewitt</i>	245
162. Infarction of the Urinary Tubuli with Urates in an Infant. <i>Dr. Willshire</i>	247
163. On the use of Belladonna in Incontinence of Urine. <i>Mr. Brooke and others</i>	247

REPORTS ON THE PROGRESS OF THE MEDICAL SCIENCES

I.—*Report on Medicine.*

	PAGE
1. Dr. Alison and Dr. Hughes Bennett on the revolution which has taken place in the treatment of Inflammation	253
2. Dr. C. W. Bell on the cause of Prolonged Expiratory Murmur in Phthisis	257
3. Dr. Brinton on Ulcer of the Stomach	259
4. Dr. Todd on the "Gouty Kidney"	264

II.—*Report on Surgery.*

1. Mr. Higginson on Transfusion of Blood	268
2. Dr. Fell on Cancer and its treatment	273
3. Mr. Fergusson and Mr. Little on the treatment of Aneurism by Manipulation	376
4. MM. Salmon and Manoury on Amputation by Caustics	279
5. Mr. Holmes on Deaths from Chloroform	281
6. Dr. Snow on the use of Amylene as an Anæsthetic	283
7. M. Diday on a mode of allaying the Fears connected with a Surgical Operation	287
8. M. Peixoto on a case in which the Arteria Innominata was tied	287
9. Mr. Bickersteth on Excision of the Shoulder-joint	288
10. Mr. Syme on Disarticulation of the Scapula	290
11. Sir Henry Cooper on Puncture in Obstruction of the Bowels	291
12. M. Bouvier on the cure of Psoas Abscess	293

III.—*Report on Midwifery and Diseases of Women and Children.*

1. M. Boinet on the treatment of Ovarian Cysts by Iodine Injections	295
2. MM. Cazeau, Huguier, and others, on Ovarian Cysts	298
3. Dr. Tilt on the Change of Life	299
4. M. Godefroy on the treatment of Uterine Retroversion by Inverting the Patient, &c.	301
5. Dr. R. U. West on Cranial Presentations and Positions	302
6. M. Blot on the Normal Presence of Sugar in the Urine during Nursing, and occasionally during Pregnancy	304

IV.—*Report on Materia Medica and Therapeutics.*

1. Dr. Wood on Materia Medica and Therapeutics	306
2. Dr. Marcelet on the Composition and Adulteration of Food	311
3. Dr. Charles Hooker on the frequent abstinence from Fatty Food in young persons disposed to Phthisis	317
4. Dr. Lindsay on the use of Glycerine as a Nutrient and Alterative	317
5. Drs. Ballard and Sieveking on Pepsine	320
6. Prof. Langenbeck on the Subcutaneous Administration of Medicines	324
7. Mr. Rhuid on the Magnetism of the Body and the probable magnetic action of certain remedies	324
8. Mr. Dixon on the prevention of Quininism	325
9. Dr. Glover, and MM. Bouchardat and Dumas, on Iodoform	326
10. Dr. Anderson and Dr. Gordon on Kameela or Reroo (<i>Rottlera tinctoria</i>) as an Anthelmintic	327
11. Dr. Robert on the Ergot of Wheat	328
12. Dr. Simpson on the use of Sulphate of Zinc as a Caustic	329
13. Dr. Bence Jones and Mr. Dickinson on the effects of long-continued action of Cold Water externally	332

V.—*Report on Psychological Medicine.*

(Conclusion.) Dr. Lockhart Robertson	335
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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

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PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

(A) HYGIENE.

ART. 1.—*On the protective and modifying power of Vaccination.*
By Dr. E. C. SEATON.

(*Journal of Public Health*, Jan., 1857.)

DR. SEATON commences this paper by correcting certain erroneous notions which are entertained in many quarters as to the views which were held by Dr. Jenner upon the protective power of vaccination, and he shows that when Dr. Jenner spoke of vaccination as an absolute and perfect protection, he meant that it protected to the same extent and in the same manner that smallpox itself did. He then regrets that the rules and cautions laid down by Jenner for the performance of vaccination should so often be departed from, and that the operation, from its simplicity, should not always have received, either from medical men or from parents, the attention due to it. Hence it is necessary, in every case of smallpox in which previous vaccination was alleged, to ascertain accurately whether the person had really gone through the vaccine disease or not. In determining the relative protection against smallpox afforded by a previous attack of the disease casually or by inoculation on the one hand, and by vaccination on the other, there is also the necessity, in the former

case, of determining whether the primary disease had really been smallpox, or whether the inoculation had been successful, and there is the necessity, in both cases, of being assured with regard to the present attack that it was a genuine one, and not one of the many diseases which had at different times been mistaken for smallpox. Again, the comparison must be made in classes of individuals similarly circumstanced as to age, condition of life, liability to exposure, &c., &c. These conditions are all fulfilled in the Royal Military Asylum, in which it had been shown, by Dr. Balfour, that out of every 1000 boys admitted protected by previous smallpox, 6·15, and out of every 1000 protected by vaccination, 7·06, were attacked subsequently by smallpox. This result might be looked upon as conclusive as regards children under puberty, and it shows that as regards them Dr. Jenner's opinion of the equal protecting value of smallpox and of vaccination was borne out. These statistics, moreover, were of great value in showing that smallpox after smallpox was by no means the rare occurrence it was sometimes represented to be, a point which must always be borne well in mind in any attempt to estimate the value of vaccination. There were no statistics by which the relative protection afforded by vaccination and by smallpox could be estimated with the same precision for the adult. The statistics of the army and navy were not available for this purpose, though they afforded most conclusive proof of the general value of vaccination, these forces being at times much exposed, and four fifths of them owing their protection to vaccination. Dr. Seaton then enters into the question of the protection afforded by vaccination under circumstances of long-continued exposure during epidemic influence. Having mentioned some striking facts on this subject, he gives the results of an inquiry instituted some few years ago by the Epidemiological Society as to the extent to which medical men, whose profession exposed them of course, in a peculiar degree, to smallpox, were liable to take on the disease. It appears from the returns, that of 347 medical men protected by vaccination, 44, or 12·6 per cent., had had variola; and of 82 who had been inoculated in infancy, 3, or 3·6 per cent., had variola subsequently. Dr. Seaton cautions his readers against accepting these statements as representing correctly the ratio in which medical men, in the ordinary practice of their profession, were liable to variola. In the first place, the inquiries had been addressed to a great many more who had not replied. Now, as variola after inoculation, or after vaccination, was undoubtedly the exceptionable case, the probability is, that in every case in which it occurred it was reported, and that those who did not reply had not suffered. This would materially lessen the per centage. Again, the inquiries were addressed to *selected* persons: the selection being, in many instances, made because of the known extent to which they were in the habit of meeting with smallpox. And, further, a great many of the cases of smallpox thus reported were cases of variolous inoculation in the dissecting-room. Making allowance for these points, the returns would, at first sight, show that under circumstances of considerable exposure, the protecting power of vaccinia was inferior to that of variola. But an analysis of the returns, with the view of determining the character of the

vaccination relied on, gave some interesting results. Of 18 who stated that there was no cicatrix visible, 3 had had smallpox, or 16·6 per cent.; and of 32 who made no mention about the cicatrix, 6 had had smallpox, being about the same proportion. Of 235, with one or two cicatrices, 33 had had smallpox, or 14 per cent.; but of 62 with three, four, or more cicatrices, 2 only had had smallpox, or 3·2 per cent. Taking these facts in connection with the immense value of the cicatrices as an index of the efficiency of vaccination, as shown by the researches of Mr. Marson, the results are sufficiently remarkable. It does not appear that the liability to take smallpox is any greater in those having more than two cicatrices of vaccination than in those who have had previous smallpox, so far as these observations go. Granting at once that the number of observations is far too limited to allow us to draw with confidence any positive conclusion, they certainly justify a negative one, and call upon us to pause before we admit that duly and efficiently performed vaccination will not protect the system, even under circumstances of severe exposure, to the same extent that inoculation itself would have done, as stated by Jenner. It is clear, at all events, that there was no truth in those statements, which treat of smallpox, after inoculation, as a bare possibility scarcely to be taken into account; and of smallpox, after vaccination, as a thing almost to be expected, especially after a lapse of years. In reference to the doctrine involved in this latter phrase—viz., that the protecting influence of vaccination is liable to wear out, Dr. Seaton cites various facts to show that it ought not to be accepted. The author then proceeds to consider the modifying power of vaccination; and he exhibits in a table the results of various returns to the Epidemiological Society of the observations made in various epidemics, and of the records kept by Mr. Marson, at the Smallpox Hospital. He shows that the mortality from smallpox, in persons reputed to be vaccinated, was not more than 3 or 4 per cent. under favorable circumstances, nor more than 7 under the more unfavorable, while the mortality of the natural smallpox varied from 20 to 35 per cent. He gives an account of the analysis of the cases of post-vaccine smallpox in the Smallpox Hospital, made by Mr. Marson, and published in his paper in the '*Medico-Chirurgical Transactions*', which Dr. Seaton characterises as the most important contribution ever made to our knowledge on this branch of the subject. By these it appears that in persons well vaccinated, and having more than two cicatrices, the mortality was less than $1\frac{1}{2}$ per cent. It is only, the author observes, by taking in connection the protecting and modifying powers of vaccination that we could arrive at any just estimate of the real value of the discovery; and he shows from the preceding facts, that of a certain number of children vaccinated in infancy, the proportion who would at any period of life take fatal smallpox was infinitely smaller than the number who, out of a given number of children inoculated, would die from the immediate effects of the operation itself. Hence the practice of vaccination was infinitely preferable to inoculation as regarded the individual. The great objection, however, to inoculation is, that it kept alive and propagated the disease. This was the case in the present day in India, in Ireland, and other places,

where it was still practised, and it had been the case in England. Hence during last century, while inoculation was in vogue, the mortality from smallpox underwent no diminution; while since the introduction of vaccination it had steadily and progressively declined. For the ten years ending 1800, the average annual mortality from smallpox within the Bills of Mortality was 1780 in a population ascertained in 1801 to be 261,233; while the four years ending 1841, it was only 1659 in a population ascertained in 1841 to be nearly 2,000,000. Then came the Act establishing parochial vaccination, and for the fourteen years ending 1855 the average annual mortality from smallpox was but 821 in a population considerably above 2,250,000. The author then shows that by far the greater part of this mortality was unnecessary and preventible; and comparing and contrasting the mortality from smallpox in this country with that existing in other countries, and glancing at the state of Scotland, Ireland, and other colonies in this respect, he pronounces our present condition to be most discreditable to us as a nation, and especially as the nation in which the discovery of vaccination took place, and expresses his hope that when the attention of the Legislature was turned, as it would be immediately, to the subject, the medical profession would make its voice heard in proclaiming the value of the practice, and the futility of the objections that had been raised, and in pointing out and supporting the establishment of a better system for securing its benefits to the entire population.

ART. 2.—*Our Losses in the Crimea.* By Colonel TULLOCH.

(*Medical Times and Gazette*, March 28, 1857.)

With a view to support the statements of the late Crimean Commissioners as to the frightful extent of the mortality among the soldiers, Colonel Tulloch has published some statistics showing the prevalence and fatal character of the diseases in the Army of the Crimea, during the winter of 1854-5, which are well deserving of careful study. Although, from the circumstance of these statistics having been prepared from returns obtained in the Crimea during a period of active service, they may not be so complete and accurate in all the details as could be desired, yet Colonel Tulloch's experience and reputation as a statist afford a sufficient guarantee of their general accuracy.

The period included in Colonel Tulloch's observation comprises the seven months, from October 1st, 1854, to April 30th, 1855—that period during which the army experienced unexampled privations, and suffered unprecedented losses. "Compared with these losses," says the author, "the mortality in our army on all previous occasions sinks into comparative insignificance; even that of Walcheren, which threw the nation into mourning, and for years convulsed our senate, did not exceed a fourth part of the average here recorded. Armies have perished by the sword, they have been overwhelmed by the elements; but never, perhaps, since the hand of the Lord smote the host of the

Assyrians, and they perished in a night, has such a loss from disease been recorded as on this occasion."

During the seven months reported upon, the average strength of the army amounted to 28,939 men, among whom the admissions into hospital were 53,913, being in the ratio of 1863 per 1000 of the strength; or in other words, on an average nearly every man must have been twice in hospital in that period. The deaths, including those at Scutari, but exclusive of men killed in action, were 10,784 or 372 per 1000 of the strength—a mortality so enormous that had it continued at the same rate, and no reinforcements been sent out, the whole army would have been annihilated in about sixteen months. Truly, such an amount of sickness and mortality demanded a rigid inquiry, to ascertain whether it arose from unavoidable circumstances, such as the powerful destructive agents of the enemy, or the natural and for the time irremediably unhealthy character of the climate or soil; or whether it was not attributable to *preventible* causes, which might have been foreseen, and with the exercise of a moderate amount of judgment, energy, and common sense, have been obviated. That it was not attributable to the destructive weapons of war is uncontestedly shown by the fact that only 1 in 13 of the admissions into hospital and 1 in 15 of the deaths resulted from wounds and injuries. The remainder was caused by disease which, there is too much reason to fear, arose from the carelessness, incapacity, and obstinacy of those on whom the supply of the soldiers with food, clothing, and shelter devolved. The following summary shows the diseases by which the admissions and deaths were caused in the different arms of the service:

	Fevers.	Diseases of Lungs.	Diseases of Stomach and Bowels.	Spasmodic Cholera.	Scurvy.	Frostbite.	All other Diseases.	Total, excluding Wounds and Injuries.	Proportion per 1000 of strength.
INFANTRY.									
(Strength, 23,775.)									
Admissions into Hospital	8959	2997	18838	1879	1834	1844	5631	41982	1766
Deaths in Crimea and Scutari .	1930	313	4071	1123	192	399	379	8407	354
CAVALRY.									
(Strength, 1915.)									
Admissions into Hospital	579	237	1567	45	141	33	766	3368	1759
Deaths in Crimea and Scutari .	48	25	130	38	..	8	17	266	139
ARTILLERY & SAPPERS.									
(Strength, 3249.)									
Admissions into Hospital	855	204	2477	83	92	70	697	4478	1378
Deaths in Crimea and Scutari .	93	27	286	67	3	21	44	541	166

The causes which gave rise to this enormous mortality "may be briefly summed up as—improper food, no means of cooking it, insufficient clothing, no adequate shelter from the inclemency of the weather, want of fuel, excessive duty of a most severe and harassing description (including the bringing up of supplies from Balaklava and digging roots for fuel), want of medicines and medical comforts when sick, and the necessity of treating disease under circumstances which almost precluded the chance of success."*

The preceding table furnishes strong corroborative proof of the truth of these conclusions, for the mortality was great in proportion to the exposure of the men, and their inability to procure proper food. Thus the mortality in the Cavalry was less than two fifths of what occurred among the Infantry. "So marked a difference," says Colonel Tulloch, "may be traced to the circumstance that this arm of the service was entirely exempt from the labours of the siege; that they had but little night-duty; and that, being in the vicinity of Balaklava, they had greater facilities for getting supplies. Among the Artillery and Sappers the mortality was rather higher than in the Cavalry, but still much below that of the Infantry. They were employed in the trenches in a smaller proportion than the men of the Line, and "the batteries, having their wagons, were regularly provided with rations and other supplies, and were thus spared the fatigues they would otherwise have undergone for that purpose." The Sappers and Miners also, besides having two nights in bed, which was often more than the men of the Line, "had an officer at Balaklava, who purchased all kinds of groceries, flour, and other food for them from the shipping, whenever they could be obtained, and had them conveyed to the front on fifteen mules belonging to the corps, which were maintained effective throughout the winter."

The marked exemption from mortality of these two arms of the service illustrates the influence of the causes already referred to in the destruction of life in the Crimea. Colonel Tulloch in his report furnishes additional evidence that the losses sustained by our army depended on "mortal agency," by contrasting the deaths in different portions of the infantry. Thus, in the Highland Brigade (3d regiment), which was stationed at Balaklava during the whole period, and was therefore nearer its supplies, had less trench duty, and was early huttied, the deaths were in the ratio of 24 per cent. of the strength. The loss in four regiments which arrived early in January, after the period at which the greatest privations from want of food and clothing and from excessive work was past, was only 7 per cent. Four regiments which had arrived early in December, and were consequently more exposed to the wet, cold, and privations, lost 27 per cent., while the *deaths in the rest* of the infantry employed in the sieges averaged 45 per cent. in the seven months. In some of the regiments the mortality was very high. The 46th, for instance, was nearly annihilated; nor is this surprising, when we learn on the authority of the commanding officer, that the men were in the trenches twelve hours in every twenty-four in November, and ten and a half in every

* 'British and Foreign Medical and Chirurgical Review' for July, 1856, p. 118.

twenty-four in December ; "and it was stated by the surgeon and verified by the lieutenant-colonel, that at one time the men were in the trenches for six successive nights, and had only one night in bed in the course of a week ; but that afterwards the duty was better regulated."

It is melancholy to reflect how many thousand lives have been sacrificed, and how much our national honour has suffered, from the disgraceful incompetency of the staff of that army. Notwithstanding the opinion of the Board at Chelsea, that no one was to blame, but that the losses were unavoidable, we feel sure that no impartial person can study Colonel Tulloch's book without arriving at the conclusion, that one third of the force perished in that winter "from the slow, though sure operation of disease, produced by causes most of which appeared capable at least of mitigation." That the mortality could not have been, "in any important degree, the result of climate, must be inferred from the circumstance of this loss having occurred in a country which, by the concurrent testimony of nearly all the medical officers, as well as the experience of the following year, appears to have been as healthy as Great Britain, except, perhaps, as regards cholera."

The statistics of the Army in the Crimea forcibly illustrate the importance of the study of military hygiene. The loss among the infantry in seven months was 755 killed in action and in the trenches — 608 died of wounds and injuries, and 9383 from disease. It is to the *prevention* of disease that attention should be especially directed to preserve an army efficient, and to save the lives of the soldiers.

ART. 3.—*On the Climate of the Crimea during the first year of the Campaign.* By Dr. SMART, R.N., late in charge of the Naval Brigade Hospital, Balaklava.

(*Lancet*, Jan. 10, 1857.)

The following remarks (which form the substance of a recent communication to the Epidemiological Society) will tend to show very clearly, that the terrible losses of our army during the first year of the late campaign in the East are scarcely attributable to the inhospitable character of the climate.

The Crimea (observes Dr. Smart) being almost surrounded by water, and connected by means of a narrow short isthmus with a vast extent of flat country, possesses, from its conformation and contiguity, a climate partaking of both those orders of characteristics that are contradistinguished by the terms continental and insular. These opposite characters do not, however, impress their traits continuously, so as to mark each its own seasons of the year ; but by their frequent alternations serve rather to stamp the climate as an irregular and inconstant one, from which it may be anticipated that the advent and course of the seasons will be found to vary much in a series of succeeding years.

In describing briefly the leading features of the seasons throughout the first year of the occupation by the Allies, and that of the capture

of Sebastopol, each in succession, it may be said of the winter that its *mean* temperature was mild, much moisture being deposited in the early part of the season, to the end of December, after which there were heavy falls of snow, with low depression of the thermometer continuously through a space of three weeks. This, which may be regarded as the climax of the winter, occurred early in January; and in receding or advancing from that period, there was not any great duration of cold. A most striking peculiarity of the winter was the suddenness of accession of great variations of temperature, by which animal and vegetable life was submitted with rapidity to the accelerating and reproductive efforts that more properly belong to the spring, and again acted on by the retarding influences of the depth of winter, very marked changes of this kind being completed in the course of a few hours. These were simply the interchanges of the continental and insular conditions of climate which were felt extremely in the position occupied by the Allies—the Chersonese—because the mountain barrier that shelters from the northern influences does not extend so far west. As early as the middle of February, the thermometer was observed to have risen to 70° Fahr.; and the *galanthus* and *crocus*—the first offerings of a grateful soil—were seen thus early bedecking every bank; and numerous varieties of bulbous and orchidaceous plants were in flower. The spring season, from the early part of March to the end of April, was warm, and the ground was moistened by showers that fell frequently in the day, the night being cold, clear, and dewy. The invigorating effects of this season on the animal kingdom was strongly exemplified in the large flights of migratory birds that tarried on these shores on their course to their northern fields, in the improved condition of those domestic animals that had withstood the vicissitudes of the winter, and in the joyful spirit pervading the camp.

The heat of the summer was at no time *excessive*: not equal to that to which our troops are accustomed when stationed at Gibraltar and Malta; but in May and June it was oppressive from extreme dryness of the atmosphere, with northerly winds that absorbed every atom of moisture, giving very few showers in return. This dry heat was much complained of, because of the great evaporation that goes on from the surface of the body while it lasts, but it does not appear to be unhealthy. The summer season changed, imperceptibly, into that of autumn; and, regarding the autumn as a whole, Dr. Smart knows no country in which the climate is found more agreeable to the sensations, by a succession of cool nights to warm, clear days, than marked its course to the end of October, when the north wind, blowing coldly at intervals, suggested the necessity of a return to winter clothing.

The change from autumn to winter, in 1854, was as sudden as that from winter to spring. This change depresses even more than that exhilarates, in consequence of the continued rains rather than of severe cold attending its commencement. The sudden mutations of temperature to which the climate of the Crimea is liable in the winter months, were more hurtful to the health of our forces than any other of the climatic conditions. These changes of heat and cold were the

sequences of the shifting of the winds from the northerly and southerly direction, or *vice versâ*. A fall of 30° Fahr., within a few hours, was by no means an unfrequent occurrence. It has been said, that these great vicissitudes of temperature of the winter season, together with the frequent electric changes of the summer, are dependent upon the alternations of the two principal winds, or rather on the changes of relative altitude and position of the planes of these atmospheric currents, as determined by the mixed continental and insular conditions of the land, and by the configuration of its surface. High mountains range along its southern coasts, and form a boundary rising into the clouds that causes the insular conditions of climate to predominate south of the barrier over that narrow strip of coast which resembles in its scenery, as well as in its climate, the Italian "Riviera," between Nice and Genoa. To this shore the imperial family and the nobility resort to enjoy the balmy influences of a southern clime, in villas seated amid the soft seclusion of luxuriant valleys, or on the sunny aspects of mountain slopes that deline rapidly towards the sea. Northward of the mountain range, the whole aspect of the country and its climate, except in a few sheltered vales, are assimilated to the continental conditions of Southern Russia. The flanks of the mountain range, of which the western was the seat of war, are obnoxious to all the inconveniences of the alternations of climatic condition to which allusion has been made. The character of the produce of a land, and the earlier and later date of its harvests, are general, but withal good criteria of the average conditions of a climate. To apply this, it may be stated, that on first arriving on these shores, in the middle of September, 1854, it appeared significant of a moderate *mean* temperature of the summer, that the cereals had just then been reaped, and were but partially gathered, while the grape was not ripe for the vintage; and the absence of the olive afforded evidence that the production of its oil does not enter into the profitable agricultural resources of a country where much of the commodity is in demand.

These facts would lead to one of two inferences: either that the summer of 1854 was behind the average of years; or that the climate of the south-western portion of the Crimea, in its main features and mean temperature, resembles more closely that of Belgium and the south of England, that lie five degrees north of it, or the western or oceanic confines of Europe, than the plains of Lombardy and central France, which are situated within its own parallels.

ART. 4.—*On London Milk.* By Dr. HILLIER.

(*Dublin Medical Press*, Nov. 19, 1856.)

Dr. Hillier, the medical officer of health for the parish of St. Pancras, has the following interesting remarks in a recent report. "I have recently examined more than twenty different specimens of milk, and find that they vary much in character. Thinking it possible that the poorness of the milk might be entirely due to the manner in which the cows were kept, I obtained milk direct from the cows at

one of the most unhealthy sheds that I could find ; and to my surprise, the milk, though not so good as country milk, was very far above the average of that sent out. There can be no doubt that the practice of adding water in large quantities is a very common one ; the quantity employed is, I believe, from 25 to 50 per cent. The milk supplied to the workhouse was one of the poorest ; instead of a gallon containing nearly 9000 grains of solid matter, it contained only 5425, or about two thirds of the proper quantity. As far as my researches have extended, it is not common to have any other ingredient added than water ; this, however, is a fraud which ought not to be allowed. . . . It is to be feared that, in some cases, water is added by the dairymen, not only to dilute the milk, but also to hasten the separation of cream, so that they may be able to obtain some from the milk before it is sent out to be sold. Thus this most important article of diet is impoverished, not only by keeping the cows in an unhealthy state, but by the addition of water and removal of the cream.”

ART. 5.—*On Calcutta Pork.* By —.

(*Lancet and Dublin Medical Press*, Dec. 17, 1856.)

“Let any person,” says a writer in the ‘Ceylon Examiner’ for October last, “at daybreak start from the gates of the Government House, Calcutta ; and whether his walk be to the banks of the river, or to the banks of the canals which on three sides surround the city, he will see pigs feeding on the dead bodies of the natives that have been thrown there during the night ; during the day the river police clear away and sink all that remain of the bodies. Bad as is the metropolis of India, it is nothing compared to Patna--hundreds upon hundreds of human corpses are there strewed along the strand ; and fattening, Ghoule-like, upon these are droves upon droves of swine. These swine are slaughtered, cut up, and salted into hams, bacon, and pickled pork, and then despatched to Calcutta. The great market for this poisonous swine-produce is the Mauritius and Bourbon, where it is foisted on the inhabitants as the produce of Europe. Moreover, as these swine are sold in Calcutta at three or four shillings each carcase, it is stated that the inferior class of homeward-bound vessels are provisioned with them, and thus this human-fed pork is introduced into Europe and America.”

(B) ACUTE DISEASES.

ART. 6.—*The “Rose-spots” in Fever, and their metamorphoses.* By Dr. ADDISON, Physician to Guy’s Hospital.

(*Dublin Medical Press*, Dec. 3, 1856.)

In a recent clinical lecture, Dr. Addison directed the attention of his class to some well-marked cases of typhoid and typhus recently

in his wards at Guy's Hospital. The observations of Dr. Addison are of peculiar interest, as they are the result of forty-four years' experience of these diseases, during which interval, he believes, the characters of continued fever in London, as observed by himself and Dr. Bright, have undergone a series of very remarkable changes. The evidence, according to Dr. Addison, is all in favour of Dr. Jenner's distinctions of typhoid and typhus being different species of fever, and not merely varieties of one and the same disease. But Dr. Addison has been so often astonished and deceived at the changes undergone by fevers, that he recommended his class as yet to receive the doctrines of Dr. Jenner as it were provisionally, in default of any more practical solution of the difficulty. The term typhoid is a bad one, and we cannot see that the term rose-spots is happily chosen, any more than bronzed skin—a term never used by Dr. Addison for the disease of the supra-renal capsules.

In well-marked typhus, Dr. Addison singled out for his class several symptoms, which contrast very strongly with those of typhoid. Typhus comes on more suddenly, and prostrates the patient more completely than typhoid. The bowels in typhoid are generally irritated, and in a state of diarrhoea; whilst in typhus the bowels, almost as a rule, are constipated. Typhoid agrees more with the general characters of gastric fevers, while typhus symptoms are rather referred to the brain. Typhoid seems a more manageable affection than typhus; and while typhus is a highly infectious disease, typhoid is free from many of the dangers common to typhus, scarlet fever, and various members of the order exanthemata. Typhus agrees rather with what is popularly known as brain fever, where it is well to shave the head and apply cold, but not to bleed; while typhoid (or ileo-typhus, as it is called on the Continent) is not, as surgically considered, a form of typhus, but a new disease, answering very much to the signs of gastritis or gastric fever.

When the disease now known as typhoid first made its appearance in London, Dr. Addison stated that he and Dr. Bright often mistook it for measles; but since then the so-called "rose-spots" have undergone an infinite variety of modifications. In some patients, it is well to remember, as has been most ably eliminated out of a mass of facts by Stokes and Jenner, that the rose-spots are absent, though all the other symptoms of typhoid are present. Of course, in typhus, we have the peculiar mulberry spots, and the skin is dusky. The pulse is not of any value as a diagnostic mark in either fever. In the case of B. D., a marked instance of typhus, now in Guy's Hospital, and with respect to which Dr. Addison gave some extended clinical remarks, all the symptoms of typhus are present. The poor woman has also coagulable urine, another very common phenomenon in typhus, caused perhaps by congestion of the kidney.

ART. 7.—Examination of the Urine during the whole course of Maculated Typhus, with the effect of Coffee upon the Excretion. By Dr. PARKES, Physician to University College Hospital, &c.

(*Medical Times and Gazette*, Feb. 28, 1857.)

The condition of the urine has been examined by several observers in typhoid fever, and some isolated analyses have been made in typhus, but no case has been examined so completely as that which is here recorded by Dr. Parkes. The results are very curious, and in part inexplicable. Still they are deserving of every attention; for, as Dr. Parkes says, we are likely to learn more about fever by a careful study of the excretions, than in any other way.

CASE.—On December 28th, 1856, a young man, æt. 17, was seized suddenly with headache, pains in the limbs, and shivering. He was seen by a surgeon, and took purgatives, but no other medicine. Admitted into hospital January 2d.

6th day of disease.—Pyrexia great. Temperature of the mouth 130° ; pulse quick; no local disease, except slight dry bronchitis. Skin covered with general mottled eruption; hue of skin, in addition to the eruption, darkish. Much headache and vertigo; some delirium; no abdominal symptoms; thirst.

7th and 8th days of disease.—Same symptoms.

9th.—Pyrexia great. Temperature 133° . Eruption on skin lighter in colour. General hue of skin still dark from congestion. Head symptoms considerable. Action of skin, none; of intestines, slight. Tongue thickly coated; dry. Dry bronchitis almost gone.

10th.—Pyrexia same. Temperature 102° ; pulse 104. Eruption disappearing fast. Headache less. Vertigo still great; thirst. No action of skin or of bowels. Tongue thickly coated; dry.

11th.—Pyrexia lessening. Temperature 102° at 2 p.m., falling at night to 99.5° ; head symptoms much less. Eruption almost gone. Dark flush of skin much less. Pulse 98. Tongue much cleaner. No action of skin or bowels.

12th.—Pyrexia gone. Temperature 97.5° . Pulse 98. Eruption not quite gone. No head, chest, or abdominal symptoms. One stool after one drachm of castor-oil, bilious, and healthy-looking.

13th.—Pyrexia absent. Temperature 97.5° . Pulse 80. Tongue quite clean; eruption gone. Considerable muscular weakness and emaciation.

14th.—Well, except weakness. Temperature abnormally low— 96° . Pulse, 72.

17th.—Temperature still low— 96° .

21st.—Temperature normal— 98° .

Discharged on the 27th day.

On the 19th day, when he was first weighed, the weight was 129 lb. He was then gaining flesh; for on the 22d day he weighed 131 lb.

The diet, from the time of admission to the 12th day, was, in each twenty-four hours,—

Beef-tea, Oj;
Milk, Oj;
Port-wine, $\frac{1}{2}$ ijj;
Lemons, ij;
Bread, $\frac{3}{4}$ vj.

On the 12th day, wine increased to 6 ounces, and fish ordered.

On the 16th day, chop, more bread, and, in fact, good diet.

No medicine, except $\frac{5}{j}$ of castor-oil.

This is the case. The result of the examination, and the comments of Dr. Parkes, which are too interesting to allow of much abridgment, we give below :

"There was no doubt from the eruption, comparatively indistinct as it was, which was present on admission, that this was a case of exanthematic typhus. The characters of the eruption were —it was generally diffused over the whole body ; it was made up of two parts, a diffuse mottling, and darker, more defined spots ; like many early typhus eruptions, it faded so much under the pressure of the finger as almost, but not quite, to disappear ; it was permanent after it appeared, although its duration was not long, *i. e.*, it was present on admission on the sixth day, and was gone entirely by the thirteenth ; supposing it had appeared, as probably it did, on the fifth day, it had a total duration of eight days, being, however, very faint during the last three of these.

"No other febrile disease could have given this eruption, and the diagnosis might have been fairly based upon it alone, but the correctness of the diagnosis was also proved by the progress of the disease. After a short and stormy course the disease terminated on the twelfth or thirteenth day without anything like the crisis of *relapsing fever* ; and, although the man was kept till the twenty-seventh day, it did not afterwards relapse. During this course there was no indication whatever of any intestinal affection ; the abdomen was flat, soft, painless ; there was no diarrhoea, but on the contrary constipation, and castor-oil had to be given. *Typhoid fever* was, therefore, rendered most highly improbable by these negative symptoms, *viz.*, the short course, the freedom from intestinal application, and the absence of typhoid eruption.

"*Febricula* is rarely attended by such severe pyrexial symptoms on the ninth and tenth days, and has never any eruption, except it may be the peculiar and uncommon 'blue spots.'

"The fever, therefore, was decidedly not typhoid, or relapsing fever, or febricula, and it was decidedly not caused by any *local disease*, for this would have been detected, and it was not caused by any of the *exanthemata*, which have their own eruptions. There can be no doubt, indeed, both from positive and negative symptoms, that it was typhus.

"We will consider now a little more closely the changes going on in the system, as far as we can yet learn them.

"During this disease the body was losing flesh rapidly ; this was owing not only to diminished ingress of food, but also to increased egress of bodily structures in the form of excretory products. In other words, the metamorphosis of tissue, as judged of by the urine, was augmented.

"This case appeared to be a very good one for the purpose of examining the urine. It was uncomplicated, except with very inconsiderable dry bronchitis during the first two or three days after ad-

mission ; there was no diarrhœa, and no difficulty therefore in saving the urine ; the skin was always dry, so that the cutaneous action produced no disturbing effect on the water of the urine. We could not, in fact, have had a more favorable case. Fortunately, also, Dr. Ranke was able to examine the urine at the same time as myself ; we have carefully compared our results, so as to be certain that no error has been committed.

" When the patient was first admitted he was in a state not requiring medicine ; the bowels had been acted upon by purgatives given before he entered hospital.

" He was put on the meagre diet already mentioned, and was allowed to drink as much water as he pleased.

" The following was the analysis of the urine, as far as it was made, for two days during the height of the fever, when no medicine whatever was given :

" In each Twenty-four Hours.

Day of Month.	Day of disease.	Temperature.	Action of skin.	Action of bowels.	Quantity of urine, oz.	Urea—gramm.	Cl Na grs.	SO ₃ grains.
Jan. 4—5	8th	103° F.	Nil.	Nil.	26	522·67	Traces.	38·225
— 5—6	9th	103° F.	Nil.	Nil.	27	542·00	Traces.	39·673

" From this table the following inferences can be made at once :

" 1. In spite of the patient's thirst, and of a large quantity of fluid being drunk, several pints in fact, a small quantity of water left the system by the kidneys and skin, and none at all by the bowels. The constant hot dryness of the skin was present whenever the patient was seen, day or night, by the nurse, by my assistant, or by myself. This retention of water is a most remarkable fact in the history of pyrexia. It is not peculiar to typhus, but is common to, though not constant in, that large class of diseases characterised by increased temperature of the body. Its cause is quite unknown.

" 2. The amount of urea was greatly increased. The normal amount of urea excreted by active men on good diet, between twenty and forty years of age, and weighing 145 lb., is 31·82 grammes, or 491 grains, in twenty-four hours ; each pound of the body excretes in that time 3·37 grains. Now, this boy, aged 17, weighing certainly not more than 129 lb.—for ten days after, when he was recovering, he weighed that amount—excreted daily no less than 532 grains, or 34·5 grammes, viz., at the rate of 4·12 grains for every pound weight

though he was on fever diet, and was taking scarcely any nitrogenous food into the body. After the fever had disappeared, from the nineteenth to the twenty-seventh day, with good diet and some exercise, the average excretion of urea was 415 grains ; and this was probably nearly his normal excretion. As he weighed about 131 lb. at this time, it would give 3·16 grains to each pound, or nearly the normal amount ; and thus, during the pyrexial, as compared with the healthy period, each pound of the body excreted urea in the ratio of 4·12 to 3·16, or almost exactly one quarter more, viz., as 100 is to $76\frac{1}{2}$.

“ 3. The chloride of sodium, instead of being, as in health, upwards of 180 grains per diem, was present only in traces ; the amount was too small to be determined. Now, here was no pneumonia, no diarrhoea, as in typhoid fever, the stools of which contain chloride of sodium in some quantity ; no sweating, as in rheumatism, which could carry off the chlorides. To what was the disappearance owing ? Not altogether to the starving diet ; for, if chloride of sodium be totally abstained from, it is a long time before it totally disappears from human urine ; and, besides, the diet in this case did contain a considerably quantity of chloride of sodium.

“ This retention is not peculiar to pneumonia, but, as I have pointed out in the Gulstonian lectures for 1855, is common, like the retained water, to the pyrexial condition, though it is not constant, nor always seen to such an extent as in this case.

“ 4. The sulphuric acid was supposed, like the urea, to be greatly increased. The normal excretion in adult males is 28·74 grains or 1·862 grammes in twenty-four hours ; whereas this boy on a spare diet passed 39 grains ·252 grammes on an average of the two days. Yet after the fever was over, the amount of sulphuric acid did not fall. On the twenty-fourth day it was 44 grains, so that perhaps it may have been normally great in this boy.

“ 5. The amount of the other ingredients was undetermined. This, then, was the waste caused by the fever : although the diet was so poor and no exercise was taken, about 100 grains more of urea were daily excreted than in the state of health ; *i. e.*, metamorphosis was more active by one fourth.

“ Having now fixed the amount of excretion produced by the fever, I determined to try, while the fever was still at its height, an experiment, and to give the patient a strong infusion of coffee. There was no necessity to give any other medicine ; had there been, of course we could not have noted the effect of the coffee.

“ The reasons for trying the effect of coffee were these. It would seem, from the investigations of Böcker and of Julius Lehmann, that coffee has an extraordinary power of delaying the metamorphosis of tissue in health ; under its use, the urea, the phosphoric acid, and the sulphuric acid alike diminished. It also produces another well-known effect ; viz., it excites powerfully the nervous system.

“ Now here we seem to have the very qualities wanted in an anti-febrile medicine for typhus ; viz., a nervous excitant, and an arrester of metamorphosis.

"I have given coffee in two cases of typhoid fever; in one, with apparently the same result as in health; viz., diminution of urea; in the other, without this effect. The present case seemed well adapted for the trial.

"Accordingly, during two days (tenth and eleventh), at the very height of the fever, the patient took during one day $7\frac{1}{2}$ ounces, and during the other 6 ounces of an infusion of coffee. The two quantities of coffee each contained 60 grains of extract of coffee; *i.e.*, when evaporated to dryness they each yielded 60 grains of pure extract, which dissolved again completely in warm water. 120 grains of extract were thus given in the two days.

"The result was as follows:

"In each Twenty-four Hours."

Day of month.	Day of disease.	Temperature.	Action of skin.	Action of bowels.	Quantity of urine —ounces.	Solids—grains.	Urea—grains.	Cl Na—grains.	SO ₄ —grains.
		102° F.	Nil.	One loose stool; no urine with it. Nil.	41	906·0	723	Traces.	44·813
11	102° F.	Nil.			36	706·8	516	Traces.	34·160

"The effect of the coffee was therefore very different from the effect in health. There was a large increase in the water, and, as the patient did not drink more, this was remarkable; the urea was greatly increased, instead of being lessened; the average of the two days being no less than 619 grains; the sulphuric acid was not diminished, its average being 39·48 grains.

"The coffee did not, then, in these doses lessen metamorphosis, yet the patient stated that he felt very much better; the headache disappeared, and the pulse became fuller and slower. Perhaps, we ought, in so severe a pyrexia, to have given more coffee; this amount may not have been enough. The experiment is not conclusive against the use of coffee; it only shows that this amount did no good.

"The coffee having been left off, we gave no more medicine, but continued to examine the urine. On the day after the coffee was left off, the pyrexia came suddenly to an end; the temperature fell to 97·5°. On the fifteenth day, it fell below the normal, viz., to 96°, and rose to the healthy amount of 98° on the twentieth or twenty-first day of disease.

"Continuation of Examination of Urine in each Twenty-four Hours."

Day of month.	Day of disease.	Temperature.	Action of skin.	Action of bowels.	Quantity of urine—ounces.	Solids—grains.	Urea—grains.	Uric acid—grains.	Cl Na—grains.	SO ₃ —grains.
9	12	97°5	Nil.	1 stool after $\frac{3}{2}$ j of castor oil.	33	—	521	—	Traces.	38·52
10	13	97°5	"	1 stool.	31	715·48	519	—	,"	36·19
11*	14	—	"	Nil.	27 $\frac{1}{2}$	714·	526	7·391	,"	39·40
12*	15	96°	"	"	27 $\frac{1}{2}$	714·	526	7·391	,"	39·40
13	16	—	"	"	21	—	516	—	,"	—
14	17	96°	"	"	30	—	531	—	,"	—
15	18	—	Trifling	Normal.	50 $\frac{1}{2}$	—	507	—	Traces; but more	38·50
16	19	—	—	—	46	—	418	—	Rather more.	—
17	20	—	—	—	24 $\frac{1}{2}$	—	344	—	,"	—
18	21	98°	—	—	32	—	336	—	,"	—
19	22	—	—	—	39	—	401	—	,"	—
20	23	—	—	—	40	—	459	—	172·31	—
21	24	—	—	—	56 $\frac{1}{2}$	—	432	—	162·12	44·03
22	25	—	—	—	60	—	488	—	172·31	49·60
23	26	—	—	—	46	—	—	—	165·05	37·14
24	27	—	—	—	56	—	442	—	174·00	—

"On looking at this table it will be seen that the excretion of urea continued great till the 18th day of disease; it then fell very considerably for four days, and then, as perfect health returned, rose again to some extent.

"There is a singular uniformity in the excretion of urea, from the first day it was examined, viz., on the 8th day of the disease, to the 18th day. Taking away one day, when coffee was given, and when 723 grains were excreted, the average was 522 grains in each twenty-four hours of these ten days, and the extreme range on either side of this average was only 35 grains; i. e. the lowest amount was 507 grains, or 15 below the average, and the highest was 542 grains, or 20 above the average.

"In spite, then, of the difference of temperature between the 8th and the 17th day, in spite of the changed diet, the metamorphosis of tissue proceeded with an extraordinary regularity up to the 18th day. There could not have been any disturbing causes, but each day, within a few grains, the same amount of urea was excreted.

"Then on the 19th day, after the temperature had been below the normal for several days, the urea fell to what is probably its natural

* On these days the urine of forty-eight hours was collected and analysed; it has been divided into two equal parts for the two periods of twenty-four hours.

excretion in this man; in the following nine days (19—27 inclusive) it averaged 415 grains, or 107 grains less than in the former pyrexial period.

"It was lower on the 19th, 20th, and 21st day, than afterwards, for the man was eating largely during the latter period; but its highest amount on any of these days was 488 grains, or 34 grains less than the average of the pyrexial period, and 235 grains less than the highest amount passed during the pyrexia.

"Is it not very extraordinary that the high range of the urea was kept up after the temperature had fallen? This is certainly not what occurs in many pyrexial cases, for the excretion of the urea and the sulphuric acid follows closely the changes of the morbid heat. I think we must wait for other cases to give us some clue to the fact that the metamorphosis of tissue, as expressed by the urea, was equal from the 12th to the 17th day, to that of the 8th to the 12th day, while the temperature was five degrees less during the former period. Why did not this increased metamorphosis keep up the febrile heat? Was there some rapid decomposition or disintegration from the 8th to the 12th day, giving rise to febrile heat, and then after this was there merely conversion into urea of substances half-oxidized, which during the febrile period had been taken up from the tissues and poured into the blood, and whose further change into urea was not attended by the evolution of heat? These are curious questions, which require more facts for their solution.

"Another remarkable point in this case is the continued absence of the chlorides long after even the urea had commenced to fall in amount. The man was on good diet and taking plenty of chloride of sodium, the fever had ceased, and yet scarcely any chloride passed off by any channel. Where and why was it retained? Had the system been drained of it before in any way? The boy had not been well previously; he had had scarlatina three or four weeks before, but we have no reason to think the chlorides would be affected in this way by that disease. Almost suddenly on the 20th day the excretion of the chloride of sodium commenced, and averaged for the next four days, while he remained in the hospital, 169 grains daily.

"The water of the urine was increased after the period when the urea fell—contrary to what occurs in many cases it was inversely as the urea, thus:

	Average of water in 24 hours. Oz.	Average of urea in 24 hours. Grs.
In the four days, during augmented temperature	32·5	575
In the seven next days, with low temperature, with increased urea	31·4	521
In the healthy period, with normal temperature, nine days	44·4	415

"I must briefly notice some other points about the urine.

"The uric acid was, no doubt, in excess like the urea. There was a great deposit of urates. This would not, *per se*, prove anything; but they occurred in dilute urine, which was scarcely acid; and after

a very great sediment had fallen, the urine was still so rich in uric acid that a drop of acetic or other acid threw down a most copious precipitate of amorphous uric acid. The amount was determined only once; on the 14th day, after the pyrexia had gone, it amounted to 7.391 grains in twenty-four hours, or almost the average of health.

"The free acidity of this urine was very small till the 19th or 20th day. On the 9th day of disease the acidity of the whole twenty-four hours was only equal to 18 grains of crystallized oxalic acid, whereas the healthy acidity is equal, according to Winter, to 36.67 grains, and according to Vogel to from 31 to 62 grains of crystallized oxalic acid. Afterwards the urine was scarcely acid, was almost neutral in fact, till the 17th day, when it evidently became much more acid, though the exact acidity was not determined.

"What makes this the more remarkable is, that in many febrile diseases the acidity is much increased.

"Was it an exceptional thing in this case, or is this common in typhus?

"Another point about this urine was that its colour was comparatively light. In fact, if you look at the relative amount of the total solids, as determined by evaporation, and at the urea, and then remember that there is potash to be added to the sulphuric acid, and phosphates and urates to be also taken into account, you will see that the amount of pigment and extractives could not have been great in this case. They must, indeed, have been lessened in amount.

"I have noticed this before in some cases of true typhus, and it is a point of distinction between it and typhoid in some, though not in all cases.

"Is, then, the disintegration of blood-corpuscles, which is now supposed to give rise to urine pigment (eventually, if not directly) lessened in typhus, instead of being augmented, as in rheumatism, pneumonia, and some other febrile diseases?"

Albumen was never present in this case, though in many cases of typhus it appears at some period or other.

ART. 8.—*On the forms of Remittent Fever prevalent in London.*
By Dr. PEACOCK, Assistant-Physician to St. Thomas's Hospital, &c.

(*Medical Times and Gazette*, March 21, 1857.)

From the writings of Sydenham, Morton, and others, we learn that during the sixteenth and seventeenth centuries fevers of a remittent or intermittent type were extremely common in London, and occasioned a large amount of mortality. In the middle of the last century we are informed that those affections were no longer generally prevalent, but only appeared epidemically in peculiar seasons and under unfavorable atmospheric conditions; and, at the commencement of the present century, they had become still less common, so that they were very seldom seen in persons resident in the metropolis, though still prevalent in the adjacent districts.

At the present time the cases of intermittent fever which occur in town are most commonly in persons who have returned from marshy neighbourhoods, either quite recently or within a few months; but

the malarious influence in the metropolis itself, is sufficiently powerful to imprint a periodic character upon various local affections, and occasionally to give rise to fevers of a remittent type. Recently, and especially during the last autumn and winter, affections of the latter kind have been unusually prevalent.

Symptoms.—The most common form of remittent fever is that in which the symptoms assume at first a continued form, but in which, after a time, more or less marked exacerbations and remissions occur; or in which, after paroxysms of an aguish character, the symptoms of continued fever supervene.

The commencement of this form of fever is generally sudden, the patient being seized with rigors, followed by heat and sweating; but in some cases the disease advances gradually and insidiously, and its nature only becomes apparent after some time has elapsed. The attack is generally characterised by the occurrence of exacerbations or remissions occurring once or oftener in the day, on alternate days, or at longer and irregular intervals. Sometimes, while there are slighter exacerbations occurring every night or every other night, there are more serious relapses, which take place at intervals of twelve or fourteen days, and after the patient has to a considerable extent recovered his strength. The exacerbations generally commence with some feeling of faintness, cold, or decided rigors; the surface of the body becomes cool, and the extremities cold and livid; the pulse is feeble, sometimes intermittent, and generally there is nausea or retching and vomiting. After a longer or shorter time reaction ensues, the skin becomes warm and occasionally pungently hot and dry; the face is flushed, sometimes extremely turgid; the pulse is quick, full, and bounding, and there is restlessness, headache, and delirium, with vomiting or diarrhoea. After five or six hours these symptoms subside, the skin becomes moist, and then profuse and often protracted perspirations break out, the pulse falls both in force and frequency, and the patient is left greatly exhausted. The symptoms vary, however, both in character and intensity; the first and second stages are sometimes very imperfectly marked, and there is little to indicate the exacerbation except the increased fever, restlessness, or delirium at night, and the tendency to perspiration in the morning. Except during the exacerbations, the symptoms of fever are not ordinarily intense; the pulse is usually only moderately quick; the tongue, though coated with a thick fur, does not generally become dry or brown, or is so only during the exhaustion following the paroxysms; the skin is warm and moist, not generally very dry or harsh; the mind remains clear, or is but slightly affected, and though the prostration of strength is great and rapid, it is usually not of long duration. There is, however, very generally a great tendency to complication with disorder of the liver, shown by the occurrence of jaundice, pain or tenderness in the right hypochondrium, and bilious vomiting or diarrhoea; with rheumatic symptoms; bronchitis or pneumonia; and, occasionally towards the end of an attack, with purpurous eruptions on the skin, and discharges of blood from the mucous membranes, especially of the bowels or kidneys, and albuminous urine.

Dr. Grant, writing on the epidemic diseases of London, about the middle of the last century, well describes this form of fever, under the name of "fever and ague," or "unformed ague," as he had observed it in certain malarious districts of the Continent during autumn, and in particular seasons in London, "when there is an aguish epidemic constitution and frequent northerly or north-easterly winds." At the present time it is certainly not by any means of common occurrence in the metropolis, and is chiefly observed in persons who have come recently from marshy districts of this country, or who have returned from some tropical climate in which intermittent or remittent fevers are endemic. Occasionally, however, it is seen in persons who have been for some time resident in the metropolis or its immediate neighbourhood, in districts not usually productive of malarious affections, and in persons whose social position generally grants immunity from such diseases, and, as I before said, this has been especially the case recently.

Of the dependence of this form of fever upon the same causes which give rise to ague there can be no doubt. Various authors, more especially the writers upon the diseases of the army and navy, and more particularly during the wars in the Low Countries, at the earlier part of this and in the middle of the last centuries, describe the epidemics as losing in the autumn their intermittent and acquiring a remittent character, and again returning to the former type with the advance of winter; and similar observations have been made in marshy districts of this country. Generally, this tendency has been ascribed to the greater intensity of the paludal miasms during autumn, or to the greater susceptibility of individuals to its influence, from having been only recently exposed. In London, however, at the present time the production of remittent fever seems rather due to the operation of the ordinary causes of fever upon persons predisposed to ague, than on any special intensity of the malarious influence; thus, the most common exciting causes are either great destitution, to which the subjects of the disease have been exposed, and which has subjected them unusually to the influence of the weather, as by sleeping in the open air; or their having committed great and prolonged excesses.

The mortality which is occasioned by this form of fever is less than from the severity of the symptoms would be anticipated, and the patient usually recovers his strength more rapidly than after attacks of true continued fever. Dr. Peacock has, however, met with two cases in which the disease proved fatal. Of six well-marked cases of which he possesses notes, and which terminated favorably, the convalescence was established on the 13th, 14th, 18th, 19th, 22d, and 23d days from the commencement of illness, and in seven cases the patients were discharged from the hospital—

On the 5th day from admission, and the 19th from seizure.

„	15th	„	19th	„
„	16th	„	19th	„
„	19th	„	21st	„
„	24th	„	28th	„
„	33d	„	61st	„
„	40th	„	42d	„

Of the two cases which proved fatal, one died on the 6th day from admission, and 27th from seizure; the other in the ninth week of illness.

ART. 9.—*Remarks on the study of some Epidemic Diseases.*
By Dr. MILROY.

(*Lancet*, Nov. 15, 1856.)

Like many other phenomena in nature, the origin and development of pestilences are involved in obscurity. We are ignorant of their immediate and efficient cause,—the *materies morbi*,—and of the circumstances which lead to their occasional and temporary outbreaks. They come and go, but the why and the where we can neither predict nor explain. If we had accurate tables of the geography and chronology of epidemics over a multitude of years, and different countries and continents, light might possibly be thrown on several problems in their history. Mr. Wilde, of Dublin, has recently set an excellent example in this direction, in Part V of the Census Report of Ireland. Again, by carefully comparing the features of different pestilences together, our knowledge might be much advanced. One of the chief objects of the present paper was to apply this principle of examination to plague, yellow fever, and cholera. The admirable works published during the last ten years on each of these diseases enable us to do this with much greater exactitude than previously—viz., the Report of the French Academy on Plague and Quarantine; the Reports on the Cholera Epidemic of 1849 by the General Board of Health, the Registrar-General, and the London College of Physicians; and the Report of the Sanitary Commission of New Orleans on the Yellow Fever of 1853. The monographs of Dr. Burrell on the Malta Plague of 1813, of the Government Commission on the Bermuda Fever of 1853, and of Dr. M'William on that of Boa Vista, are highly valuable; and the Report on the Cholera in Jamaica contains much reliable information. The facts related in these works prove that outbreaks of these three pestilences have very generally not been such sudden events as has often been imagined, but have been preceded by very noticeable signs, either in the type or prevalence of the endemic diseases, or by unusual meteorological conditions. This was strikingly exemplified in the history of the plague in Malta, of the yellow fever in Brazils, and of the cholera in this country. The season of the year at which the three pestilences have generally occurred in force has been nearly alike—viz., the period between July and November. In this respect they differ remarkably from the exanthematous fevers, and also from typhus, which in this country at least are most frequent and fatal in the colder half of the year. The meteorological phenomena which have usually accompanied the full development of the three pestilences have been very similar. Perhaps the most uniform peculiarities have been a stagnant condition of the atmosphere, and irregularity and unusual direction of the winds before and during their prevalence. The commencement and rise of these diseases have generally been obscure, their characteristic symptoms being often indistinct at first. Cases of plague are without buboes and carbuncles,

of yellow fever without the marks of hæmato dissolution, and of cholera without cramps or decided collapse. Notwithstanding this uncertainty, it is of first-rate importance to ascertain and record with exactitude the precise dates and localities where the earliest recognised cases of a pestilence occurred. Without this knowledge, ascertained beyond all dispute, it is impossible to reason correctly as to its origin and spread. Medical records have hitherto been exceedingly defective upon this head; and until habits of more accurate observation and notation are acquired, it is in vain to look for a solution of several problems in epidemiology, and, amongst the rest, as to the part which contagion or infection plays in the primary introduction and subsequent spread of epidemics. It is also very necessary to study with attention the various predisponent and favouring agencies of epidemic evolution and diffusion. Amongst these, local atmospheric impurities, arising from nuisances on or below the surface, or from overcrowding in ill-ventilated apartments,—humidity, whether of the atmosphere, or of the soil or subsoil on which a building stands,—and elevation, not only of an apartment above the surface of the ground, but also of the site above the level of the sea or of the surrounding land, are especially worthy of notice. By diligently attending to these influences, along with due regard to the quality, &c., of the ingesta, the foundation of preventive and prophylactic measures is to be laid. The paper concludes by an earnest recommendation that in the army and navy it should be an invariable rule to increase the amount of breathing space at night for the men before an epidemic disease has manifested itself, and whenever there is the slightest ground to apprehend the coming danger.

ART. 10.—*On the therapeutic effects of Charcoal in Epidemics of Measles and Cholera.* By Dr. WILSON, Colonial Surgeon, New Zealand.

(*North American Medico-Chirurgical Review*, Jan., 1857.)

The following remarks are taken from a report to the Government for the year 1854. Dr. Wilson says:

“Throughout the course of the epidemic (measles), I never observed diarrhoea to be beneficially critical, but otherwise; and as invariably induced either by imprudent exposure in the early stages of the disease, by sudden check to perspiration; or, when the state of the patient, or unavoidable circumstances, came in the way of promoting a perspirable state of skin. Hence, I never hesitated to check the laxity by such correctives as had also a sudorific tendency; and of these I found none so efficient as the ordinary wood *charcoal* in powder, though, had the prepared sort been within my reach, I should have preferred it as of more efficacy.”

Then, after some remarks upon the use of charcoal in dysentery and yellow fever, Dr. Wilson proceeds:

“Until the summer of 1834, no opportunity offered to me of researching further as to the worth of *charcoal* administered internally. But, in that season, I happened to be a sojourner in that city of

Andalusia, called Jerez, at the time it became subjected to a violent outburst and overspread of cholera—a disease, I may remark, I had rather longed to see in its epidemic form, and in that fierce instance of its workings, I may verily say, I was greatly more than gratified.

"I was not, at the time of the occurrence, residing in Jerez in a professional capacity; but, under the strange circumstance that some of its *medicos*, early in the epidemic, *absconded* therefrom, and that, to meet the dire exigency of the visitation, not the tithe of an adequate number remained behind, it was no time to be simply a looker on. Accordingly, I proffered my services to the Government authorities, and an hospital being put under my charge, I had now, and in all ways, ample opportunity of acquiring some knowledge of the disease. By a reference, then, to my notes of that period, I may here introduce some detached remarks therefrom, relative to the use of *charcoal* in it, whether employed as a prophylactic or as a remedial agent.

"In the early part of the first stage, where there is only some anomalous feeling of *malaise*, attended with slight laxity of bowels, and which has obtained among the Spaniards the name of *colerina* or little cholera, a few doses of Lavitz's *prepared charcoal*, both by the mouth and by enema, and the exhibition on the succeeding day of an oil laxative, and living cautiously for a few days, are sufficient means, generally, to check the further advance of the disease.

"Throughout the first stage of formal attack, when I could prevail on my patients to take *charcoal*, it was administered; but many objected to take it by the mouth, and it was not with the multitude I could insist, since I could not compel obedience, neither give time to superintend its necessarily frequent administration, nor place reliance on the quantity or *quality* given. From repeated experiments on myself and others, I am well assured that the latter is of considerable consequence, the remedial power being much deteriorated by exposure to the air. Therefore, it should not only be very carefully prepared, but be kept for use in accurately stoppered bottles or phials. I would further observe that, hitherto, I have always used the charcoal prepared from the olive-root, which is a compact, hard wood—not, however, from choice, but merely from its being that which most conveniently offered. But I consider it as not improbable that experience may detect a difference of medicinal quality in opposite sorts. Thus we see gunpowder-manufacturers adopt, as giving strength to their compound, charcoal made from the willow and such light woods. Hence, we may argue that, if levity indicates, in the composition of that, a superiorly energizing effect, so may the charcoal of the willow, cork, or sponge, be found to be superiorly efficacious, as a medicine, to that prepared from the heavy woods."

"As a prophylactic, after the publication of some instructions to the people, the charcoal gained a speedy and extraordinary reputation; and some of the blacksmiths, who got from me the mode of preparing it in large crucibles, acknowledged to the gain of seven and eight dollars a day by retailing it in small quantities to the multitudes of applicants. But, without having once tried whether it had or had not virtues, all my *confrères* were doggedly opposed to its administration; and much of the people, in some degree influenced, but greatly more

from the novel, yet homely character of the article, as also from the required largeness and frequency of the dose, could not readily be brought to rely confidently on it as a remedial agent in so hurrying a disease. Ultimately, therefore, when, from the general explosion of the epidemic over the city, I was obliged to post from patient to patient, or rather from house to house, and to square, and lane, and street, it was only in very occasional cases that I could continue its use by the mouth. But from first to last, I persevered with, and met no balking to, its employment in the form of elyster. But it was given also, in numerous cases, by the mouth, and with such general good effect, as to have impressed me with the firm conviction, that, in all stages of the disease, it is a most beneficial adjuvant, and anterior to the asphyxial stage, and in that of reaction, most eminently curative.

"It may possess a specific febrifuge power or quality, but I am disposed to ascribe its virtues to its general antacid and absorbent property, and no less to its controlling and corrective power over all ferments—vinous, ascendent, and putrefactive. Hence, as it was my belief that foul, morbid fermentation in the stomach and bowels, was one of the most constant symptoms, and not the least of aggravating causes in the progression of the disease, I could see nothing more likely to correct and mitigate it than the agency of this medicine, and more so, as I found that, by restricting my patients to the use of those articles the least liable to run into the fermentative process, as *e.g.*, rice water, linseed tea, and unleavened cakes or biscuit, were the most likely to effect a cure: while, on the other hand, inattention to such dieting, or deviation therefrom, were the most certain means of both accelerating and aggravating the disease.

"Generally speaking, Spaniards are very averse to *post-mortem* examinations; but the hospital which I superintended, together with, at that sad time, the almost utter regardlessness of the living as to what became of the dead, afforded me every facility; and I availed myself thereof as often as my professional avocations would permit. And in corroboration of the opinion that a fetid, fermentative state of the intestinal contents has greatly to do, if not in promoting, certainly in aggravating, the disease, I can affirm that, invariably, I found these, notwithstanding the gallons of watery fluid that had passed off during the course of the disease, most offensively feculent, and not unfrequently remarkably scybalous. I do not, of course, advance this last circumstance as extraordinary, supposing, as we may, that the fluids of the system poured into the alimentary canal, acted thereon simply as saline purgatives often do in dropsies, in the autopsies of which disease we often find impactions of scybalæ of very old date. Thus, in such, on one ocoasion, I was present at the detection of the seeds of the prickly pear, which, it was accurately ascertained, had been eaten six months before, notwithstanding that saline purgatives had repeatedly been used intermediately. But the important inference to be drawn from the circumstance of the retention of putrid feculent matter, and viewing this as the pabulum, is the necessity that exists of administering oily laxatives during the stage of reaction, or, at latest, so soon as that begins to abate; for I found, until I adopted this plan

of treatment, that my cases of relapse were frequent, and not unusually fatal. But, what experience and *post-mortem* autopsy proved to me, could not be made alike obvious to my patients. Accordingly, I met with much, and very often fatally-ending opposition to this evacuating practice, as they could not be made to comprehend how a disease of so untowardly diarrhoeic a character, was to be otherwise than deteriorated by the administration of laxatives.

"I have never had an opportunity of using *bone charcoal* internally, but, from its ascertained superior powers as a deodorizer, I consider that it deserves to be tested by experiment in such affections as I have here indicated.

"I may add, in conclusion of this short notice regarding charcoal, that during the course of the Jerez epidemic now observed on, I was affected repeatedly with premonitory symptoms, and once to the degree of what, as already observed, was denominated by the Spaniards *colerina*. But, on every one of these occasions, I derived almost immediate relief from a dose or two thereof; and thus, no doubt, I escaped the endurance of a more formal attack.

"Taken daily as a prophylactic, the only inconveniences complained of were its sudorific and constipating effects."

ART. 11.—*On Hæmaturia after Scarlet Fever.*
By Dr. BASHAM, Physician to the Westminster Hospital.

(*Lancet*, April 4, 1857.)

Hæmaturia after scarlet fever is no uncommon occurrence; it is always associated with more or less of general dropsy, with a pasty, spanæmic appearance of the surface of the body. In the great majority of cases, it is a morbid condition, perfectly manageable, quickly yielding to judicious treatment, and only in exceptional cases either leading to, or associated with, permanent and organic mischief of the kidneys.

A question of much pathological interest arises out of the study of these cases—namely, whether the congested or impeded state of the circulation in the kidneys is mainly dependent on arrested cutaneous function during the desquamation of the cuticle; or is it evidence of the imperfect elimination of the febrile poison during the eruptive stage, and therefore a sequel to the completion thereof through these emunctories—the kidneys. From whichever point of view we study these symptoms, the condition of the kidneys is that of inflammatory congestion, and the impeded renal function demands the same remedial measures.

Of the many cases of hæmaturia and dropsy after scarlet fever that come under treatment, some have had the exanthematous fever most favorably, and its characteristic stages have been well marked, but during convalescence, have been incautiously exposed, and the proper precautions, with respect to clothing at that period, have been neglected. In these there is some show of probability that arrested cutaneous function may suffice to explain the sequelæ of dropsy and bloody urine. But, in the vast majority of cases, this secondary con-

dition must be accepted as evidence of the imperfect elimination of the febrile poison during the antecedent exanthematous stage, arising either from the greater intensity of the poison, or the incompleteness of the processes by which it is released from or decomposed in the system.

The amount and duration of hæmaturia, as a secondary affection after scarlet fever, is very variable. In some cases the renal hæmorrhage is abundant, and gives to the urine, for some consecutive days, a marked blood-red appearance; in others, the presence of blood is scarcely recognised, except by a certain dusky appearance, as if a few grains of soot had been added to the urine. Nevertheless, whether the hemorrhage be trifling or abundant, there is always at the commencement of this supplemental stage evidence of more or less febrile disturbance, clearly expressing the inflammatory nature of this secondary process. Anasarca of greater or less degree of the whole surface of the body, sometimes with, more often without, serous accumulations in the abdominal cavity accompanies, most frequently precedes, the hæmaturia. The pale, pasty, spanæmic aspect of the patient is also very expressive of this disorder.

CASE.—John D—, ten years of age, admitted into Burdett ward, in August, 1855. This child had scarlet fever the first week in August, and from the mother's description, the eruptive stage was passed favorably, there being however troublesome sore-throat, with external swelling of the neck. By the 14th of August, however, he appears to have been quite well. A few days since, however, his face and eyelids were noticed to be swollen in the morning; and, on admission the following symptoms were recorded:—The whole surface of the body is anasarcaous, more evident in the face and hands and wrist, feet and ankles, than on the trunk; the abdomen is distended, dull on percussion at the flanks, and affords evidence of fluid by succussion. The temperature of the skin is higher than natural; the pulse is small and frequent; the tongue pale and furred; the chest affords no evideuce of disturbed function. The urine which has passed since admission is of a dark, blood-red colour, highly albuminous by heat, and the sediment, under the microscope, exhibiting abundance of large-sized fibrinous casts, entangling blood-discs, and many free corpuscles. The little patient complains of thirst, loss of appetite, and urgent aching pains across the loins. The lumbar spaces are painful on making deep-seated pressure. He was ordered to be cupped to six ounces from the loins; to take half a drachm of the compound jalap powder; to have a warm bath each night; and to have the diaphoretic mixture every four hours, the action of which was to be promoted by the child being clothed in flannel. The little fellow bore the cupping without flinching or crying; and two days afterwards we find the swelling in the abdomen greatly reduced, and the general anasarca of the surface diminished. There is less heat of skin; the pulse is fuller and slower; there is no thirst; the tongue is clean; and there is some desire for food. But the urine is still highly charged with blood; and the pain across the loins remains much about the same. Brisk purging with the jalap and cream of tartar was continued; and by the end of the week a very manifest improvement became apparent. The amount of urine began to augment in quantity, as soon as the action of the purgative ceased; but the hæmaturia continued, although less abundant. He was now dry cupped over the loins, and with considerable and immediate relief, indicated by the abatement of the pain, and the clearer and more natural appearance of the urine. Its specific

gravity was ascertained to be 1·016. The dropsy by the tenth day from admission had nearly disappeared ; the abdomen was natural and free from any indication of fluid ; and the only vestige of the anasarca was some slight puffiness of the eyelids in the morning. The heart had been examined from time to time, and found free from any murmur. The urine at this period, under the microscope, showed fibrinous casts, with a few epithelial cells entangled therein ; there were also a few scattered blood-discs. The appearance is well illustrated in a drawing made at the time : the casts are all large-sized, very granular, and within this mould, as it were, are many epithelial cells. Another drawing was made from the examination of the urine, when the child was first admitted, and there the casts are of the same character, with this difference, in these latter only blood-discs are visible ; none of the granular epithelial cells of the tubes are visible ; so that it would appear that, in the early stage, the microscope reveals a state of simple haemorrhage, the casts of tubes being the blood coagulated within them. Later in the disease an exudation of the epithelium of the tubes becomes abundant, and may, if unchecked, lead to serious embarrassment of the renal function, and permanent organic mischief in the kidney. With good management, however, this condition may be averted.

By the fourteenth day material improvement had been effected ; all traces of dropsy had disappeared. The appetite was good ; no thirst ; amount of urine natural, but it was still albuminous. There was, however, that peculiar pallid look, that evidence of an impoverished state of the blood, which is so universal in this disease, and which tells so forcibly of the morbid agencies that, from the primary exanthematous fever to the secondary febrile state with renal haemorrhage, had been continuously deteriorating this fluid in its most important constituent of red globules, that the propriety and even necessity for the administration of chalybeate medicines must be apparent. He first took the citrate of iron ; but a week afterwards the urine continuing albuminous, and the microscope still exhibiting blood-discs and fibrinous casts, this form was changed for the tincture of the sesquichloride, which he took for a fortnight in ten-minim doses. It cannot but have been remarked by you how rapidly the child improved in appearance ; how soon, after taking this most valuable of all the preparations of iron, his countenance and the surface of the body generally indicated an improved quality in the circulating fluid. Before he left the hospital we had the satisfaction of finding that the urine was quite free from albumen, and that beyond a few isolated and scattered epithelial cells the urine presented no morbid state under the microscope.

" I have," Dr. Basham proceeds, " only a few words to add respecting the period at which in these cases it is proper to put the patient on steel medicines. Your best guide is the presence or absence of febrile disturbance ; so long as there is thirst, anorexia, a quick pulse, and hot skin, febrifuge medicines and local depletion are clearly indicated ; but with the subsidence of these, no time should be lost before the influence of ferruginous remedies should be tried, and generally in these cases of renal hemorrhage and albuminous urine you will find the sesquichloride the most efficacious and best adapted for this class of disorders.

This case has illustrated the chief features, both of symptoms and treatment, of the haematuria and dropsy after scarlet fever. They may be summed up as follows :—Anasarca of the surface, ascites, scanty urine, renal hemorrhage, albuminous urine, with symptoms of

febrile disturbance. The principles of treatment were to alleviate the local congestion and impeded function of the kidney; to lessen the febrile excitement; to promote the action of the skin; and for a time, while the inflammatory congestion of the kidneys continued, to husband the renal function, and by active hydragogue purges to cleanse the system of the accumulated fluid which the embarrassed kidneys were inadequate to excrete; and lastly, when these results had been favorably accomplished, to supply the functions of assimilation with a constituent all important to the impoverished blood, and which, co-operating with animal food and well-regulated diet, soon carried the little patient to a satisfactory convalescence."

(c) CHRONIC DISEASES.

ART. 12.—*Salt in Intermittent Fever.* By Dr. MOROSCHKIN.

(*Schmidt's Jahrb.*, No. 6, 1856.)

Dr. Moroschkin observes that during the prevalence of scorbustus and ague in the Transcaucasian province of the Black Sea, quinine sometimes entirely lost its powers. When no very prominent scorbutic affections were present, he administered 1 oz. of salt in water, in two doses daily, during the absence of the apyrexia. In patients in whom the paroxysms were incomplete, very abundant sweating followed, the skin resumed its normal appearance, and the various other signs of amendment followed, the disease becoming cured in a few days, and the dose having to be diminished. In cases in which the improvement was only partial, quinine now became more efficacious. Of 103 cases, 70 were completely cured, and the others ameliorated.

ART. 13.—*Arsenic in Rheumatic Gout.* By Dr. FULLER, Physician to St. George's Hospital.

(*British Med. Journ.*, March 28, 1857.)

Arsenic is regarded by Dr. Fuller as "a faithful ally in many cases of rheumatic gout," viz., in instances marked by extreme inactivity of the skin, where the patients suffer greatly from cold, and rarely if ever perspire, however warmly they may be clad, however active the exercise they take, and however great the heat to which they may be subjected. Under the use of arsenic, "the languor and depression which characterise the disease pass off; the complexion improves; the skin loses its dryness and harshness; the excretions resume their healthy character; the patient gains flesh; and the rheumatic or gouty symptoms subside." Dr. Fuller gives, if the urine be turbid, from eight to fifteen minims of liquor potassæ arsenitis with liquor potassæ or acetate of potash; if the urine be clear and of low specific gravity, he orders from ten to twenty drops of liquor arsenici chloridi, either alone or in combination with bark and (if mineral acids be in-

dicated) hydrochloric acid. In cases of chronic rheumatism also, Dr. Fuller has found arsenic of great service. The *modus operandi* of this remedy, as well as that of sulphur, he professes himself unable to satisfactorily explain. However, of the fact he is certain—that arsenic, judiciously administered, and carefully watched in its effects, is one of our most valuable remedies in the chronic forms of rheumatism.

ART. 14.—*On Rheumatic Tenosynitis.* By M. CHASSAIGNAC.

(*Mon. des Hôpitaux*, No. 92, and *Medical Times and Gazette*, Jan. 3, 1857.)

M. Chassaignac considers that rheumatic inflammation of the tendons is an affection that has not as yet been sufficiently studied. The patient who elicited these remarks recently entered the hospital on account of a rheumatic hydarthrosis of the right knee, having already suffered from several attacks of rheumatism; so that there could be no doubt of the diathesis being present. There was observed also, in this patient, on his admission, a painful hypertrophy of the tendo-Achillis on each side. It was not an example of the affection which Velpeau has termed crepitating tenosynitis, and which consists in an inflammation of the sheath of the tendon, and is characterised by a serous effusion, accompanied by a kind of crackling analogous to that which is heard on pressing starch or hardened snow between the fingers. Here it is an affection of the tendon itself; for, on the one hand, the tendo-Achillis has no synovial sheath, and the thickening can only arise from a modification of its proper tissue; and, on the other hand, the hardness was such in this case as could only arise from an increase of size exclusively due to the tendon. The induration proceeded from below upwards, and at one period the upper part of each tendon having become inflamed, it could be felt hard and tender, as could the foliaceous prolongations it sends among the muscles of the calf—prolongations that could be easily perceived by simple palpation. The induration was attacked by vapour douches, and through their agency the movements, which were at first painful and difficult, have become more free, while the tendons have been rendered more supple, and the hypertrophy has diminished.

ART. 15.—*The Constitutional Treatment of Cancer.* By MR. WEEDON COOKE, Surgeon to the Royal Free Hospital and to the Cancer Hospital.

(*Lancet*, April 15, 1857.)

The following remarks, we are convinced, contain the key to the only treatment of cancer which offers any chances of a successful result:

“In a large number of cases,” says Mr. Cooke, “there is a period when the cancerous tumour ceases to increase, begins to diminish, and gradually to waste away; so that the prolongation of life is not in any way affected by the patient having been subject to this malady.”

This spontaneous cure of the disease has been noticed by Velpeau, as well as by Sir A. Cooper and other authors, and several cases of cure by atrophy could be recited from amongst the patients at the Cancer Hospital. If the *vis medicatrix naturæ* is sufficient even in a few cases to check the disease, may we not fairly expect that some of the means which we possess so abundantly for encouraging a healthful condition of the solids and fluids of the body shall be effective in the assistance of the vital powers to stop the further growth of the fungus. All medicines or dietaries of a lowering description I utterly repudiate, and even the iodide of potassium, which Velpeau says cured three cases of cancer, I have little inclination to employ, unless in combination with iron or some other tonic to counteract its depressing tendency. All the soporifics should be objected to, as adding to the dyscrasia, and when, from the entreaties of patients, it becomes necessary to have recourse to them, all hope of remedy must be put aside. Arsenic has formed the basis of most of the secret remedies which at regular intervals sweep over society, exciting all the superstitious reverence which more or less lurks in every breast, and has brought for a short period great grist to the magician's pouch; but according to my experience, its usefulness, either internally or externally, does not compare to other more certain and less dangerous tonics and escharotics. Of all the medicaments which experience or theory has shown to influence this disease, iron in its various forms is capable of effecting the largest amount of benefit. In order to obtain this good in various constitutions, it is necessary to vary the form of its administration, and then to alternate this tonic with others. The mineral acids are most valuable, either alone or in combination with other drugs. A mixture of lemon-juice and sarsaparilla is, for delicate people, a most excellent appetizer. Bark in the form of the compound tincture is largely used with the greatest benefit at the Cancer Hospital, and cod-liver oil, as an adjuvant to other remedies, is serviceable.

"Diet and moral management are of the utmost moment in the conduct of these cases. It would be impossible to lay down dietetic rules applicable to every case, since each person has his peculiarities, and must be managed in accordance with them; but it will be well to say that the system requires to be amply nourished and somewhat stimulated; that good meat, good beer, and a fair supply of good vegetables,—putting aside the nonsense of sloppy soups, and leucophlegmatic fish, to waste the appetite and distend the stomach,—are the grand indications as far as the important matter of diet is concerned, and wine may be taken according to advice. The treatment of the mind is not less important, and if we could eradicate the idea of the incurability of cancer, we should do much towards its cure. Hope would assist our efforts at restoration more perhaps than any physical agent. The diversion of the mind from the contemplation of the malady by the influence of genial society, by the cultivation of literature and science, and by change of scene in travel, have tended to the production of that atrophy of the disease, which is in fact its cure."

ART. 16.—*Relation of Cancer to Tuberclæ.* By Mr. J. Z. LAURENCE.

(Assoc. Med. Journ., Oct. 4, 1856.)

Hannover states that, in 338 *post-mortem* examinations in the Friedrich's Hospital in Copenhagen, cancer was found combined with tubercle only three times. In 104 necropsies of cancer, Walshe observed only seven instances of tubercle. Paget gives a well-marked case. Lebert relates an interesting illustration. A woman, aged 62 years, died with all the symptoms of advanced phthisis. At the autopsy, crude and softenened tubercles and vomicæ were found in the apices of the lungs; the peritoneum contained many partly cancerous, partly tuberculous infiltrations. The liver also contained cancerous masses, mingled with deposits of tubercle. Dr. Carl Martius of Erlangen has accurately recorded twelve necropsies of tuberculosis of the lungs, combined with cancer in other organs of the body.* "Up to the time of publication of my essay on Cancer," writes Mr. Laurence, "I had observed two cases of the coexistence of cancer and tubercle; neither of these cases were, however, very satisfactory ones; one was carcinoma of the right auricle of the heart—a dissection-room case; the second a case of colloid (on the nature of which disease opinions are still divided) of the peritoneum. In both of these genuine crude tubercles were found in the lungs. But I am now able to produce a very conclusive case at point."

CASE.—Obed. O—, æt. 77, consulted me in September, 1854, for a swelling of his right cheek, that had existed about four months before I saw him. The right malar region was considerably swollen, felt doughy, was dingy red and glossy; it was very tender, and he experienced remitting pains in the part, of a pricking and shooting character. He had five decayed teeth in front of the upper jaw, and had lost all his other teeth long before. The vision of the right eye was unimpaired. In his right nostril was an ordinary mucous polypus, which had existed for some years; this I removed. He knew not how to account for his malady. None of his relations ever had cancer, but there appeared to be a tuberculous tendency in the family. He had lost flesh; his appetite had forsaken him; his complexion was dull and earthy.

The further progress of the case may be told in a few words. The tumour increased, but never reached any considerable size, nor gave him much pain. The right eye was attacked by a chronic inflammation, and was slightly protruded; and he at last became nearly blind of this eye. He lost his sense of taste; "everything tasted alike to him." The nostril bled occasionally, often to a degree sufficient to require medical attention. His sense of smell, too, became impaired. But it was in his general health that the most marked changes occurred. He wasted to a "living skeleton," sinking with it to a degree of debility not often witnessed. He died the latter end of February, 1855, about eight months from the first commencement of his disease.

Post-mortem Examination.—*Brain:* Normal. *Antrum:* Filled with a growth which reached to the very bottom of that cavity, and had completely destroyed its anterior wall and the floor of the orbit. The tumour was of the medullary species; the cut surface was firm, yellowish white, not hæmorrhagic.

* 'Die Combinationsverhältnisse des Krebses und der Tuberculose,' von Dr. Carl Martius. Erlangen, 1853.

On pressing it, a good deal of thick, white, turbid juice, exuded in small drops. I found this growth composed exclusively of cancer-cells—without exception, the most perfect specimens I have ever seen. Some were circular; others lengthened out; others again of an extreme length, and narrowed. A great many contained two or more, often a large number, of nucleolated nuclei—excellent examples of endogenous cell-formation. Exudation-corpuscles and fat-globules were also abundant. *Lungs*: Upper halves of both firmly consolidated by quantities of crude, yellowish grey tubercles. A few small vomicæ. No cancerous deposits. The microscopic characters of the tuberculous matter were well marked. *Heart*: Some indurations at the edge of the mitral valve, and in the line of attachment of one of the segments of the aortic valve. Bicuspid and pulmonary valves normal. No hypertrophy nor dilatation; muscular substance firm. *Liver*: Portal system congested. Contained a small earthy nodule. *Kidneys*: Left one of a deep venous hue, with a small cyst in its substance. Right one healthy. *Spleen*: Normal. *Intestines*: Not opened; much narrowed in calibre.

“Another fact worthy of attention is the different susceptibilities different organs have for the development of the two morbid states. Thus primitive cancer of the lungs is very rare, primitive tuberculosis of the lungs very common; primitive cancer of the liver is not uncommon, primitive tuberculosis of the liver is rare. And these facts may be multiplied for several other organs.

“I have long been struck, when listening to the melancholy tales of cancerous patients, how often one hears that some of their relatives have died of consumption. Is there any connexion between the two diseases? Are they in any way, as it were, *vicarious* to one another? If they were, the great rarity of their both occurring *together* would be at once explained. However, the materials for answering these questions are as yet too scanty and vague to allow of any positive conclusions. All I will say is, that, of 51 cancerous patients who have fallen under my own observation, I find that no fewer than 14 (upwards of a fourth) knew of a parent, a brother, or a sister, having died of phthisis.”

ART. 17.—*A case of progressive Fatty Degeneration and Atrophy of the Voluntary Muscles.* By Mr. LEGGATT.

(*Lancet*, April 11, 1857.)

Mr. Leggatt's observation of this case extended over above ten years. The subject of it was a male, born in the country, of healthy parents, in 1838, and removed to London in 1840. When first seen by the author he was strong, vigorous, and healthy, but in the summer of 1845 he had jaundice, measles, and remittent fever, the latter severely. After his recovery he became weak in his lower extremities, and fell frequently in walking. In 1847 he was seen by Sir B. Brodie, who considered the case as some spinal affection. In 1850, Sir B. Brodie recognised the disease as similar to Dr. Meryon's case alluded to. The symptoms were loss of power in the lower extremities, some wasting of the muscles of the thighs, those of the calves remaining firm and large. The treatment was essentially tonic, with galvanism.

No benefit occurred, the muscular weakness increased, and gradually extended itself to the upper extremities. The muscles of the face, of deglutition and articulation, were not affected, nor was the sensibility of the skin. The rectum and bladder were unaffected, except that during 1849 there was slight incontinence of urine. His faculties were unimpaired, and his general health was good. He died from pneumonia in 1856, aged 18. A careful examination was made 28 hours after death, during which the muscular system generally was found to be wasted, and the lower limbs much emaciated. The spinal chord was softened about its middle one-third, but not inflamed. The roots of the spinal nerves were healthy, and so was the brain, and all the different viscera, except the right lung at its base, where it was softened. In the cervical and dorsal regions of the back the muscles were healthy, in the lumbar pale; the intercostals were thin, and the diaphragm very pale. By the microscope no inflammatory alteration could be detected in the chord or its membranes, but it showed fatty degeneration in its various stages in the pale muscular structures, and in some of these fibrous degeneration without fat. In the heart much of the striated appearance of health was absent, and much of its structure was undergoing granular and fatty degeneration.

The author then analyses fifteen cases of this disease, and states the results thus—With respect to the brain: in 6 the brain was healthy; in 1 the white substance was softened; in 1 there was an osseous plate in the arachnoid. With respect to the chord: in 6 it was healthy; in 1 partially softened with fatty degeneration; in 1 partially softened without fatty degeneration; in 4 the anterior roots of the nerves were not observed; in 1 they were inflamed, softened, and atrophied, the chord also being inflamed and softened; in 1 they were normal, while the chord was softened, but not inflamed. He thus considers that the disease in question was not of spinal origin, in his own case being persuaded that the softening of the chord was only of recent origin, and not the cause of the paralysis. He also regards it as premature to advance M. Cruveilhier's theory, that it consisted in atrophy of the spinal nerves at their roots; but rather views the disease as dependent upon depraved nutrition of the muscular system generally. In addition to wasting and want of power, M. Cruveilhier had described among the symptoms, pain, twitchings, and cramps; these are described in no other paper. In all, the general health was good, and the command of the sphincters complete. The prognosis as to progress and to recovery was always unfavorable. The treatment, of course, was tonic, with the use of galvanism. The author, in conclusion, enumerates the causes, and groups them thus: 1. Excessive muscular action and fatigue. 2. Severe illness, and exhausting influences. 3. Hereditary tendency (?) This seemed established in Dr. Meryon's and M. Aran's cases; though, in the present instance, the author could not trace this as a cause.

ART. 18.—*The Atrophy of limited groups of Muscles.*
By Dr. BRITTAN, Physician to the Bristol Infirmary.

(*British Medical Journal.*)

In the 'Dublin Quarterly Journal of Medical Science,' for November, 1856, Dr. Reade, of Belfast, published a paper, entitled "Contributions to the Pathology of the Spinal Marrow." In it he relates three cases to illustrate "a diversity of morbid action arising out of disease or injury of the same portion of the spinal marrow." The three cases are: 1. "Symmetrical muscular atrophy." 2. "Paralysis of the body beneath the phrenic nerves, from concussion." 3. "Paralysis of the body beneath the phrenic nerves during dentition." The first of these cases is adduced in illustration of the views of M. Cruveilhier on muscular atrophy, which views are—

That there is a species of muscular paralysis, sometimes partial, sometimes general, which gradually and successively invades, fasciculus by fasciculus, and fibre by fibre, the voluntary muscles, leaving all the functions of nutrition intact, excepting that of muscular nutrition.

That this gradual muscular paralysis is the consequence of progressive atrophy of the anterior roots of the spinal nerves, and equally progressive atrophy of the corresponding muscles.

That this "*paralysie musculaire atrophique*" is analogous to that which results from section of muscular nerves.

That the facts appertaining to this form of paralysis confirm the theory of Sir Charles Bell.

And that these observations demonstrate a previously unknown influence of the anterior roots of the spinal nerves on muscular nutrition.

"I have lately," says Dr. Brittan, "had two cases analogous to the first in Dr. Reade's paper, under my care at the infirmary; but as they offer certain important differences as to the history of the patients and early conditions of the disease, I think it may be worth while to publish them, with a few remarks; more especially as Dr. Reade seems to think them rare, or at all events to have been able to find but one recorded.

"Dr. Reade's case is that of a young man, æt. 19, nearly six feet high in his clothes, apparently a specimen of robust health and excellent constitution. Eighteen months previous to examination he had been distinguished amongst his companions in all athletic exercises, and well proportioned in his muscular development. 'The first sign of the approaching disease was a degree of stiffness or difficulty of executing the motion of putting on and removing his hat' (in other words, of raising his hand to his head); never suffered pain, and has enjoyed uninterrupted health in all other respects. 'When he stripped his body to the waist, he exhibited neck, chest, and arms to the elbow-joints reduced to the most abject degree of emaciation; this was symmetrical; the greater and lesser pectorals were little more dense than the strongest brown wrapping paper.' The muscles of the neck, scapulæ and humeri, were reduced to the mere elementary outline of muscles; whilst from the elbows, the forearms and hands displayed

the full development of a robust and vigorous man, with all the concomitant power, sensibility, and aptitude for use. He was under treatment for two years. A seton in the neck, the use of dumb-bells, and electro-magnetism were tried, but without material improvement. Six years later he was again inspected, and was found decidedly improved; the muscles more developed. The muscles of the neck have been fully restored, and the others considerably augmented and perfectly obedient to the will. The forearm and hand have lost much of their former bulk; but his occupation for the six years has been sedentary. His health has been uninterruptedly good.

"The analogous case is quoted from Rokitansky. A labourer, æt. 45, much exposed to wet, and in the habit of allowing his clothes to dry on him, was attacked with pain in the left shoulder, which was most severe about fourteen days after it commenced. There was no swelling, redness, numbness, nor tension; but great pain when the arm was raised with the other hand: he could not lift it without. After the first week the shoulder was found wasted; as the pain subsided the wasting advanced, till the deltoid, supraspinatus, infraspinatus, and teres muscles, seemed completely absorbed. The shoulder-joint was healthy, and there was no emaciation of the forearm or hand.

"Dr. Reade regards this case as one of muscular atrophy from abeyance or destitution of the function of nutrition; and he states 'these three cases illustrate a diversity of morbid action, arising out of disease or injury of the same portion of the spinal cord.'

"He also alludes to two other cases within his own cognisance; one of atrophy proceeding from the shoulders to the feet, accompanied by paralysis, and a second confirming Cruveilhier's statement of the pathology of this paralysis, the same morbid changes having been found in the roots of the anterior spinal nerves. We thus have muscular atrophy, partial or general, according to Cruveilhier, depending on atrophy of the anterior roots of the spinal nerves. Muscular atrophy partial, according to Dr. Reade, depending on imperfect nutrition, the result of disease of the spinal cord.

"My two cases more accord with that quoted from Rokitansky, and show, I think, that muscular atrophy, with of course necessarily a quarter or less degree of loss of power, proportionate to the amount of atrophy, may sometimes depend on another cause, or at least appear to spring from a different origin, and be connected in some way with rheumatism and the rheumatic diathesis. They are as follows:

CASE 1.—William Spencer, cotton-spinner, æt. 24, was admitted under my care, at the Bristol Royal Infirmary, in November last. His history was as follows. Four years ago he was discharged from the 2d Regiment of Foot, on account of an attack of rheumatism, for which he was in hospital seven months. His joints were then much swollen. Three years since he felt aching pains in the left shoulder, with stiffness and inability to move it freely; these symptoms gradually increased, and, *pari passu*, the shoulder became more emaciated; he has, however, continued to work at the cotton factory until very lately.

He is now excessively emaciated all over the body as regards the muscular structures, the joints being very prominent, and the muscles feeling like mere cords. His ordinary position is with the elbows flexed to a right angle, the

forearms supinated. He states that he can move his arms better at night, especially after exertion during the day; the attempt to straighten the arm gives pain. He can raise the arms without pain, but has not power to lift anything. His general health is good. The first sound of the heart is rather harsh and rough. He perspires excessively in his limbs, particularly on the thumbs, and most remarkably after the galvanism, which was tried without benefit. He left scarcely, if at all, improved.

CASE 2.—Charles Webber, æt. 23, short, but healthy looking, and apparently well made, became an out-patient, October, 1856. By trade he is a shoemaker, and always enjoyed good health. He was lately a corporal in the 17th Foot, from which he was discharged on account of his present disablement. Six months since, whilst on duty at Limerick, he was exposed to very heavy rains, and continually wet; on rising one morning after exposure could not walk, on account of pain in his right hip, knee, and ankle joints, which then began to swell. He was confined to bed for fifteen days. After the first seven days the pain passed to his shoulder and side of the head, leaving his hips and legs. Soon after the pain reached his arm he found the flesh between his shoulder and elbow diminishing, on the right side first, then on the left. In two months the arms were no larger than his wrists, and he could not lift them to his head. This continued for six weeks, when they began slightly to increase again, and he felt more power in them.

Present condition.—His arms, from the neck to the elbow, are less than half of the natural size, all the shoulder and humeral muscles being much diminished; the biceps only seeming of anything like the natural size. There is very little deltoid, and the triceps feels like a mere band. His appearance exactly coincided with that of Dr. Reade's patient, as shown in the drawing that accompanies his paper. He cannot raise the arm well, but can flex the forearm on the arm firmly. He had no particular treatment in his regiment; nothing but liquor potossæ. He had syphilis three years ago, and a few spots came out as the rheumatism appeared. He was under treatment for a month, principally with iodide of potassium, and much improved.

"I should," proceeds Dr. Brittan, "feel great diffidence in suggesting doubts as to the correctness of M. Cruveilhier's assertions, supported as they appear to be by the observation of the morbid changes, described in the *post-mortem* examination of the corresponding case, alluded to by Dr. Reade, did I not conceive that the cases now reported bore me out in the supposition that the cause alleged by Cruveilhier is at least not the only cause of this curious disease; but there are many other objections to this theory to which these cases direct our attention.

"It will be observed that in Dr. Reade's case, and in my own, especially the second, there are several common peculiarities.

"1. The symmetry of the morbid action.
"2. The localisation of it to particular groups of muscles; for example, those of the shoulder and humerus, and, to some extent, the biceps; whilst the muscles of the forearm remained unaffected.

"3. The uniform commencement of the atrophy in the upper parts, and progress downwards.

"4. The absence, in each case, of more paralysis than must necessarily be the result of such a degree of atrophy; in fact, it is not paralysis, but loss of power from want of muscle.

" Each of these, independent of all other considerations, appears to me to afford strong objection to either of these alleged causes of the morbid actions. For,

" 1st. They require that we assume the anterior spinal roots to be exactly symmetrically affected on either side.

" 2d. With a knowledge of the extraordinary complexity of the arrangement of the filaments forming the anterior roots of the cervical nerves, more especially the different distributions and variety of muscles supplied by branches from the fifth, sixth, seventh, and eighth roots, it is almost impossible to conceive atrophy of these anterior roots, affecting only limited groups of the muscles, to all of which these branches proceed ; for instance, how can the scapular muscles be affected with paralysis and atrophy, caused by atrophy of the spinal roots, through which their nervous filaments pass, without involving also the phrenic nerve ; or of the deltoid and humeral muscles without corresponding affection of those of the forearm and hand, whilst the subscapular, musculo-spiral, and circumflex nerves may be traced through the plexus to the 5th, 6th, 7th, and 8th roots, and the ulnar and median to the same.

" 3d. If we allow Dr. Reade's view, that these cases depend on imperfect nutrition, the result of disease of the spinal cord, which involves the influence of the anterior roots—in other words, M. Cruveilhier's theory—we must suppose, to explain these cases, that this function of the cord is so located and circumscribed that disease of its structural instruments may produce its effect without inducing paralysis ; or assume (as Dr. Reade states his case proves) that, as the result of organic lesion of the spinal marrow, 'muscular atrophy may exist without paralysis, as paralysis of motion may exist without disease of sensation or the converse.'

" 4th. The absence of complete paralysis in each case, and the proportion between the wasting and loss of power, seem to evidence that the loss of power is more fairly to be ascribed to want of nutrition and loss of substance, than to loss of nervous energy.

" In fine, I cannot help thinking that the phenomena of these cases give no support to the views of M. Cruveilhier or Dr. Reade ; and without considering the evidence of the two I have related, and that of Rokitansky, as sufficient to prove any connection between this curious condition and rheumatism, they do, I think, afford reason to induce us to lean to the side of analogy, and look for some more general or diathetic reason to account for such peculiarities of mal-nutrition. I should add that there was no evidence to lead to the notion of lead-affection, nor, as far as I could learn, had mercury ever been largely administered in either of the cases I have reported, though 'spots,' probably syphilitic, appeared with the rheumatism in the case of Webber."

ART. 19.—*Diagnostic value of the Hydatid Sound ("son hydatique," of Pierry).* By (1) Dr. MARKHAM, Assistant-Physician to St. Mary's Hospital; and (2) Dr. LITTLE, Physician to the London Hospital.

1. (*Assoc. Med. Journ.*, Dec. 20, 1856.)
2. (*British Med. Journ.*, March 7, 1857.)

(1) Dr. Markham's attention was called to this peculiar and rare auscultatory phenomenon—hydatid fremitus—by the following case. The phenomenon was long ago described by Pierry, but its value, as a diagnostic sign, has not yet been satisfactorily determined. The question, as will be seen, is one of direct practical interest, and not merely one of learned curiosity. Dr. Markham writes:

"A lad, who has been some time under my care as an out-patient at St. Mary's Hospital, and who is at present in the hospital, under the care of Dr. Chambers, has had for some length of time a large tumour occupying the right hypochondriac region, and extending far down into and widely over the right side of the abdomen. The general surface of the tumour is smooth, but there are one or two prominent, obtusely conical projections, about the size of half an orange, rising from the surface. One of these projections is soft and elastic, and, when percussed, communicates to the finger which is struck a most peculiar sensation, resembling very exactly that which arises from the vibrations of a loosely hung steel spring. When auscultation and percussion are practised together over the lump, the same idea is still communicated to the mind. The description of the vibration, as given by Pierry, very exactly explains it, and immediately occurred to me when I first noticed the vibration in this case, though I must confess that I had hitherto been disposed to look upon Pierry's subdivision of percussion-sounds as somewhat imaginative. Pierry says: 'Il est impossible de rendre par des mots la sensation qu'il donne. Elle semble se rapporter à la fois au doigt qui percute, et à l'oreille qui l'écoute: le doigt éprouve une sorte de résistance élastique qui le repousse, et cela plusieurs fois de suite; l'oreille perçoit un son qui ressemble au bruit humorique quoiqu'il en diffère sous quelque rapport. Tout porte à croire que, dans les cas que j'ai observé, il s'agissait de tumeurs hydatiques.' . . . 'La sensation que le doigt éprouve, et que accompagne le bruit, peut être entièrement comparée à celle que donne une montre frappée sur la surface opposée au verre.' "

"He adds, that, relying upon facts which he had observed, he considers that the phenomenon indicates the presence of small hydatid cysts suspended in the fluid of larger cysts.

"That the phenomenon is very rarely observed, we may conclude from the circumstance that Skoda, in referring to Pierry's description of it, remarks that he does not know if any one else has made similar observations. It is possible that the reason of its being so seldom observed is, that it is so seldom sought for. Hydatid tumours also, do not, as a rule, present on the anterior parts of the liver.

"The practical point of interest is, of course, involved in the diag-

nosis of such a case as here described. What is the nature of the tumour? Is it encephaloid? is it of an hydatid character? If Piorry's view is correct, the latter must be its nature. Now, in such case, should the growth or enlargement be so great as to interfere with the functions of any of the vital organs, and so to endanger life, then might very properly be considered the propriety of opening the tumour, and giving exit to the hydatid masses. In this we should be only following the example which nature not unfrequently sets us; and, provided we can be satisfied that adhesions have taken place between the tumour and the abdominal walls, we may thus operate with safety. Piorry indeed mentions that Recamier had opened one of these cysts, having first applied caustic over the surface to produce adhesions between the peritoneal surfaces of the tumour and the walls of the abdomen.

"If the tumour be malignant, of course surgical interference will have nothing to say to it.

"The experience of the profession, to which I here appeal, may perhaps assist in the diagnosis of this case. I may add, that the peculiar physical qualities of hydatids, the vibratile gelatinous-like movements of their coats when shaken or gently struck out of the body, quite favour the idea that they may give rise to the above-stated auscultatory phenomena.

"The questions to be considered then, are:

"Does this 'hydatid fremitus' invariably indicate the presence of hydatids; or may it arise from any other cause?

"Do hydatid tumours near the surface of the body when percussed always give rise to the fremitus? And, if not,

"What is the particular condition of the hydatid cyst, which gives occasion to the fremitus?"

2. The remarks of Dr. Little upon this subject were called forth by the previous remarks of Dr. Markham. He says:

"About 1840, I visited, late one evening, in consultation with Dr. Langmore, of Finsbury Square, a gentleman, aged 36, who presented, with other signs of hepatic derangement, an enormous abdominal tumour which had commenced in the right hypochondrium. A recent and sudden aggravation of symptoms occasioned the consultation. I discovered the presence of the '*son hydatique*' of Piorry, and realised the truth of Piorry's description, as quoted by Dr. Markham, 'La sensation que le doigt éprouve et que accompagne le bruit (humrique) peut être entièrement comparée à celle que donne une montre frappée sur la surface opposée au verre.' Upon the strength of this sign, I suggested that the tumour was probably due to hydatids. I was subsequently informed by Dr. Langmore that the same night the patient discharged by vomiting a *pailful* of them. Some months later I saw the individual, without signs of tumour, in tolerable health, although very spare in habit. I believe that he sank two years afterwards from the same disease."

"With my present experience of hepatic tumours, I should, in such a case as that above related, rely much upon the great size of the more or less obscurely fluctuating mass in diagnosing its hydatid origin. I have never witnessed a perfectly similar case."

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 20.—*The influence of Season upon the Mortality from Brain-disease.* By Dr. ROBERT BOYD.

(*Edinburgh Medical Journal*, Sept., 1856.)

The deaths from diseases of the brain in the St. Marylebone Infirmary during the three years 1840-42, occurred at the times stated in the accompanying table. The particulars are from a paper entitled 'Contributions to the Pathology of the Brain, &c.'

TABLE I.—*Organic Diseases of the Brain.*

	SPRING.			SUMMER.			AUTUMN.			WINTER.		
	March,	April,	May.	June,	July,	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
	M.	F.		M.	F.		M.	F.		M.	F.	
Inflammation of the Brain and membranes	9	+	7	3	+	1	3	+	3	6	+	6
Softening of the Brain	5	+	3	0	+	0	0	+	5	4	+	0
Tumours of the Brain	2	+	4	1	+	1	1	+	1	1	+	1
Sanguineous Apoplexy	2	+	5	1	+	2	4	+	1	8	+	7
Paralysis	3	+	4	0	+	2	2	+	2	0	+	0
55 Males, 55 Females, Total	21	+	23	5	+	6	10	+	12	19	+	14

Functional Diseases of the Brain.

Convulsions	0	+	0	1	+	0	2	+	4	2	+	0
Epilepsy	1	+	1	1	+	1	0	+	0	1	+	1
Insanity	3	+	1	3	+	5	1	+	2	2	+	2
17 Males, 17 Females, Total	4	+	2	5	+	6	3	+	6	5	+	3

The organic diseases therefore are most fatal in spring and winter, the functional disorders in summer and autumn.

ART. 21.—*Effects of mental Labour upon the Blood* By Dr. THEOPHILUS THOMPSON, Physician to the Hospital for Consumption at Brompton.

(*Lancet*, Dec. 18, 1856.)

Dr. T. Thompson commences this paper by remarking that the requirements of advanced civilization make increasing claims on the mental and physical energy, as the number of aspirants for distinction multiplies, sympathy becoming more intense, taste more fastidious, competition more keen, and the necessary concentration of mind on special subject of pursuit involving an exhausting effort. Intellectual, like muscular action, probably involves an expenditure of living material, and introduces a changing series of particles, those which have been used giving place to others which come with the energy of new life to perpetuate the action. Stagnation may induce decay, but undue persistency, haste, or intensity, especially in creative efforts, may occasion waste. The author then proceeds to adduce examples. One instance was an account-keeper, who, after being for some weeks engaged twelve hours daily at the desk, lost the power of fixing his attention, and became affected with such sensitiveness of the nervous system as to be frequently kept awake at night by tingling of his skin, and, when he fell asleep, disturbed by frightful dreams. There was no emaciation, loss of appetite, or disturbed digestion, and the urine was natural, with the exception of a few oxalate-of-lime crystals; but there was a strong venous hum in the jugular veins, a slight cut bled freely, and the blood under the microscope exhibited a remarkable deficiency of pale corpuscles, the proportion not being more than a fourth of the average in health, or a twentieth of what is common in phthisis. The patient, with better regulated habits, and the use of cod-liver oil and nitro-hydrochloric acid has rapidly improved. The author observed, that the clergy, being specially exposed to the wear of thought and sympathy, are peculiarly liable to this disordered condition of the blood, their nervous system becoming unduly susceptible, and their minds rendered too easily accessible to the delusions of pseudo-science and quackery. He described the case of a popular clergyman, who without impairment of digestive or muscular power, became affected with sleeplessness and disturbed continuity of thought, the principal physical symptom being jugular murmur. Nitro-hydrochloric acid, cod-liver oil, and subsequently phosphate of iron, with phosphoric acid, were employed with most satisfactory results. Dr. Thompson is disposed to think, that the wear of inordinate and anxious work acted as a succession of shocks through the nervous system on the blood, and he illustrated his views by histories of effects produced by sudden and violent shocks physical and mental, showing that railway collisions occasionally produced results analogous to those depending on intellectual causes, and adducing an instance from the practice of Sir Henry Marsh of death from entire change of the condition of the blood, without any other organic disease, induced by the mental shock occasioned in a young lady by having accidentally administered poison to her father. After

relating instances illustrative of the exhausting effects of exclusive attention to one object, and remarking on the varying phenomena resulting from differences of temperament, or from association with indigestion and other collateral ailments, the author proceeded to show, that in addition to measures directed to the regulation of the mental habits, medicines calculated to enrich the blood were most important auxiliaries, and that oils could often be employed when chalybeates proved too exciting. The class of cases referred to pointed to the conclusion, that over-work of the brain may often occasion deterioration of the blood before the condition of other organs disturbs the brain. The probably hereditary transmissibility of such conditions makes them of incalculable importance, and happily they are amenable to treatment. The author concluded with remarks on successive changes in the prevailing type of disease. The plethoric condition prevalent in the seventeenth century gave place, in the eighteenth, to gastric congestion. This condition has now ceased to predominate, and we have perhaps entered on an anæmic era, likely, if not corrected, to prove unfavorable to the production of great men. As respects the application of medical theories, a wider range of view should be sought. If the medical art is to render a full share of good to the community, it must be not simply in treating the maladies of individual patients, but by ministering to the conditions which disturb the vitality of the race. Thus, whilst improving our appliances for daily work, remembering that we are enlisted in the service of mankind, we may make posterity our debtors.

ART. 22.—*On Cerebral Abscess.* By Professor LEBERT.

(*Medico-Chir. Review*, April 1857.)

“Professor Lebert observes on the importance of a minute investigation of each form of disease that affects the brain, and draws attention to the fact, that abscesses of that organ have not as yet met with that consideration which they merit. He has observed five cases himself, and has collected a large number reported by various authors, the analysis of which yields the following results :

“Of the 80 instances collected, 22, or above a quarter, presented scattered abscesses in various parts of the brain; the remaining 58 were cases in which solitary abscesses were found in some part of the encephalon. These were distributed as follows :

Left hemisphere . . .	23 cases.	Cerebellum . . .	12 cases.
Right hemisphere . . .	18 ”	Pituitary body . . .	2 ”
Corpora striata . . .	2 ”	Medulla oblongata . .	1 ”

“In the cases of multiple abscesses, there were never more than five. In 11 there were two; in 6, three; in 3, five; in 2 cases the number was not specified. The abscesses generally occupy the white substance, only affecting the grey matter by extension from the former. The author points out the peculiarity of the fact that suppuration prevails in the less vascular white matter of the brain, while the morbid condition most prevalent in the grey matter is softening. The form

of cerebral abscesses is generally oval; they vary in size from that of a pea to that of a hen's egg and more. An entire hemisphere is at times found converted into a pouch filled with pus. When a communication is established with one of the cerebral ventricles, the form becomes very irregular. The contents are generally a greenish pus of considerable density, rarely containing blood. In 18 cases the pus is reported as having been very fetid. The microscope shows the pus to be very granular, and not containing many well-formed pus-corpuscles; the older the abscess, the more they seemed to be retrograding. The abscess is at first surrounded by cerebral tissue infiltrated with pus, beyond which the cerebral tissue is softened, and, if the abscess is very recent, presents a red zone of vascular injection. Plastic exudation soon forms a membranous sheath, which may attain a thickness of from one to four millimètres. The cyst itself is supplied with blood-vessels, and thus helps to promote suppuration. It does not appear that these encysted abscesses can be cured; at least, no evidence can as yet be offered to prove it.

"With regard to the duration of the affection, it appears, from an analysis of 18 cases, in which the period was noted, to have been as follows:

From 10 to 20 days 1	From 40 to 50 days 3
20 to 30 " 2	50 to 60 " 5
30 to 40 " 4	60 to 90 " 2
From 90 to 120 days 1.	

"In many cases there was no indication as to the duration of the disease; in others, only the acute symptoms which closed the scene were considered, though a chronic stage had evidently preceded their outbreak for a longer or shorter period.

"Professor Lebert next considers the question of the rupture of an abscess, and its communication with other parts. Perforation or abnormal communications were found to have occurred in 12 cases. The lateral ventricles are the parts into which perforations most frequently occur; the presence of pus causes inflammatory thickening of the ependyma, and scattered spots of inflammatory softening in the adjoining cerebral tissue. In 5 cases the perforation was effected through the ear or the orbit, and the abscess was discharged externally. One of these cases is related by Itard, in which the internal ear is said to have remained healthy, though the cerebral discharge made its way outwards through the petrous portion of the temporal bone.

"Professor Lebert analyses the histories also, with a view to determining whether any uniform lesion of other organs accompanies abscess of the brain. This does not seem to be the case; the general conclusion appears to be, that what debilitates the individual causes a predisposition to this affection. In 6 cases, pyæmia supervened distinctly; 3 cases in which it is suspected to have occurred, are not accompanied by sufficiently detailed necropsies to justify a positive statement. A complication with tubercular disease was only noted three times, in one case affecting the cervical, bronchial, and mesenteric glands, in another the mesenteric glands only, and in a third the bron-

chial glands were tubercular, while the lungs were full of miliary tubercle.

"The most frequent cause of cerebral abscesses is internal otitis; this in its turn often resulting from scarlet fever, angina, or scrofula. Cerebral abscesses also occur as sequelæ of inflammations of distant parts—as of pneumonia, pericarditis, enteritis, or of measles. They also occur in the form of metastatic abscesses, associated with chronic diseases which appeared to exercise no definite influence in their production, and as a result of traumatic injury.

"The latent character of the disease is important in regard to diagnosis. Sudden headache is the symptom which most frequently first excites attention; it is generally accompanied by febrile symptoms; vomiting, difficult articulation, and convulsive attacks may supervene; the patients become heavy and morose, and show delirium, contraction of pupils, photophobia; numbness and formication may supervene, and apoplectic symptoms may occur; but all these symptoms vary much in different cases. The intellect suffers comparatively little; sensibility suffers more frequently: the headache is more or less intense, generally diffuse at first, and subsequently unilateral. Coma occurs frequently, but often only temporarily. Paralytic states were observed in about one-half of the cases; they were generally local, but showed themselves also in the form of general muscular debility. Diminished articulating power was observed in 10 cases. In regard to the special senses, only the affection of the ears presents any points of importance. No special symptoms are observed in reference to the vascular or respiratory system. Disturbance of the digestive organs showed itself in the form of vomiting in 20 cases; involuntary defæcation occurred towards the fatal termination of 11 cases. The duration of the disease appears to fluctuate from two or three weeks to two months; there is necessarily a difficulty in determining the point, as the commencement can only be approximately fixed. It occurs at all ages; but the greatest frequency prevails between the sixteenth and thirtieth years.

"On the subject of treatment nothing is suggested, as no case of cure is known. The author especially protests against adoption of any surgical proceeding for the purpose of removing the contents of the abscess."

ART. 23.—*A case of Abscess in the Cerebellum.* By M. DUFUY.

(*Gaz. Méd. de Paris*, April 4, 1857.)

This case is another example of this somewhat rare affection.

CASE.—The patient, a female, æt. 28, was admitted into the Hôpital la Charité, under the care of Dr. Rayer, on the 25th January, 1857. She exhibited at this time the ordinary symptoms of facial paralysis on the right side, and she had a purulent discharge from the right ear. There was neither pain nor swelling in the mastoid region; the hearing was not affected; and the tongue and uvula were perfectly straight. The discharge from the ear had existed from infancy; and the facial paralysis, according to the statement of the patient, had come on three or four weeks previously, after

exposure to cold and damp, the onset being marked by acute cephalgia, affecting the whole of the head, and by vomiting. On admission there was some difficulty in walking, and the patient required the arm of another person to move along the ward. The bowels were constipated.

January 26th.—Bleeding. 28th.—Galvanism was applied to the paralysed muscles, and under this treatment the distortion of the features became sensibly lessened. No relief to the headache; and now the integuments of the head have become very sensitive, and there are many painful spots in the course of the fifth pair of nerves. The right pupil is sometimes more dilated than the left. The vomiting and constipation continues, and there is rapid emaciation.

February 2d.—On raising the patient, to ascertain whether she can walk without assistance, she was found to reel from side to side as if the floor was unstable; and during the night she had fallen flat upon her face upon attempting to get up.

4th.—The state now is one of complete collapse, although there is sufficient intelligence to reply by signs to any question. The general sensibility is exalted; the discharge from the ear diminished; the pulse 100, without any increased heat of skin. Cupping-glasses to the neck.

5th.—The faculty of speech restored. No delirium during the day, but during the evening agitation and a constant disposition to get up, which rendered mechanical restraint necessary. A blister applied to the nape.

7th.—The head is bent backwards. Slight delirium.

8th.—The same.

9th.—Death.

The vomiting and constipation continued throughout the whole course of the case; and the urine was very scanty during the whole time she was in the hospital.

On examination after death, the upper part of the petrous portion of the temporal bone was found in a carious condition, and there was a small ulcerated opening in the corresponding portion of the dura mater. The facial nerve had a brownish tint in the part which is enclosed in the canal of Fallopian. Upon the inferior aspect of the right cerebellar hemisphere, under the arachnoid, was a thin collection of greenish and fetid pus, and this collection communicated with another collection of the same kind, contained in a cavity in the neighbouring substance of the cerebellum. The opening into this cavity was immediately on the outside of the middle cerebellar peduncle. The walls of this cavity presented (1) a pulpy layer having everywhere a very marked blackish tint; (2) a reddish-brown vascular layer, which is none other than inflamed cerebral tissue in the period of red induration; and (3) a layer of indurated white nervous substance. The layers might be easily enucleated from the neighbouring parts. The pia mater was injected over this abscess, but not the arachnoid. There were no other lesions either in the nervous centres or elsewhere.

ART. 24.—*A Case of Rupture of the Meningeal Artery.*
By Mr. HENRY WATSON.

(*Lancet*, Aug. 30, 1856.)

“ This case,” remarks Mr. Watson, “ is very interesting, and shows the great value of Mr. Hilton’s opinions on injuries of the head. The patient doubtless struck his head on the right side when falling, and, from the form of the skull, the effects were felt on the opposite side, re-

sulting in the rupture of the middle meningeal artery (the “*contre-coup*” of the French). My reason for trephining on the opposite side to the bruise was the paralysis on the right side; that being a point on which I have heard Mr. Hilton particularly dwelt, and which I believe is especially mentioned in his lectures.”

CASE.—John Hawkins, æt. 27, a spare, delicate-looking man—the “Boots” in the *Golden Fleece*,—was seized on the 18th of April, at the commencement of a voyage to the Crimea, with a fit of epilepsy, for which I was called to see him. I found him lying on the deck, with all the usual symptoms of that affection. In a few minutes he recovered his consciousness, and was able to answer my questions; and walked to his berth apparently well. On my seeing him half an hour afterwards, to my surprise, I found him drowsy, stupid, and nearly insensible; in an hour’s time he became completely so. His pulse became full, slow, and labouring; the pupils fixed and dilated; the skin hot; and his motions were passed involuntarily. I ordered his head to be shaved, and carefully examined it to see if there was any external fracture. None, however, was perceptible, a slight bruise only being visible on the right side. I therefore ordered a large blister to be placed on the scalp, fifteen grains of calomel to be given through the medium of butter, and a strong turpentine enema to be injected. In the evening, the right side of the body was completely paralysed, and there was no improvement whatever.

For three days this state of things continued, the same treatment being resorted to. I was now convinced that unless something further was quickly done he would sink, and that, from the symptoms of the case, it was compression from extravasation. Bearing in mind Mr. Hilton’s opinions on these cases, on the 22d I trephined over the site of the middle meningeal artery on the left side. On removing the bone, to my great pleasure I found a large clot of blood between the bone and the dura mater. This I removed, and in two hours afterwards the man had recovered his consciousness, and could speak distinctly and rationally; the paralysis also entirely disappeared. He went on well for the next four days, and on our arrival at Malta I sent him to the hospital there, as it would be some time before he would be able to attend to his duties. At the expiration of a month the wound had nearly healed, and he had nothing whatever to complain of; I therefore ordered him on board, to resume his duties. In a couple of weeks the wound had entirely healed, and he went on performing his duties till our arrival in England in July, when he was discharged perfectly well.

ART. 25.—Arsenic in Intermittent Mania. By M. MOREAU.

(*Gazette des Hôpitaux*, No. 113, 1856.)

Intermission in mental diseases is by no means a rare phenomenon, but it is almost always incomplete, for it seldom happens that a patient enjoys complete lucidity in the intervals. Such cases are, however, occasionally met with, and one recently occurred to M. Moreau at the Bicêtre. Quinine, according to some, is useful under these circumstances; and M. Moreau has employed it in various ways and doses, but never with decided success. He has since substituted arsenical preparations with much better success.

ART. 26.—*On Chloroform in Delirium Tremens.* By Dr. RICHARDSON.

(*American Journal of Med. Science*, Oct., 1856.)

Dr. Richardson having seen an account of the successful employment of chloroform in the treatment of delirium tremens, at the Hospital, Blackwell's Island, New York, to which he was at the time assistant-physician, writes to protest against the accuracy of the statement. He says that, out of some hundred cases so treated, but nine were stated to be cured; while, in fact, this was the case with but one, all the others having yielded to large doses of opium and diffusible stimuli. On reviewing the cases in which chloroform seemed to be of use, he says, it is found that sleep only occurred after large and frequent doses of opium and stimuli had been already administered; and, in every case in which it was given before the patient had been nearly narcotized with opium, either fatal asphyxia was the result, or its influence rapidly passed off, leaving the patient as delirious, and often more so than before its administration. "In a pure and uncomplicated case of delirium tremens, we find that all the functions, both of animal and organic life, are inefficiently performed; the intellect is clouded, the appetite fails, digestion is impaired, all the secretions are scanty, the heart beats feebly, the pulse is small, and the tendency to local congestion is very great. When chloroform is administered in such cases, it necessarily produces congestion of the lungs, since the blood, not being decarbonized, flows more and more slowly through them until it ceases to circulate; hence the liability, in all cases where chloroform is inhaled, to death from what is sometimes called pulmonary apoplexy, or from subsequent pneumonia. I have made autopsies in several cases of death following the administration of chloroform, in one of which it supervened immediately after the patient had ceased to inhale the anaesthetic; and I have invariably found the lungs completely gorged with dark venous blood. Not only does chloroform produce congestion of the lungs, but also of the brain and nervous system generally."

ART. 27.—*On the use of Biniodide of Mercury in certain forms of Epilepsy.* By Dr. FULLER, Physician to St. George's Hospital.

(*Medical Times and Gazette*, Feb. 14, 1857.)

At St. George's Hospital Dr. Fuller frequently uses the biniodide of mercury, and speaks of the great success he has obtained from it. Two cases of epilepsy at present under his care at the hospital may be quoted in exemplification. The one is that of a boy, 18 years of age, who came under Dr. Fuller's care about the middle of last November; the other, that of a man, æt. 44, who was admitted a patient in the middle of December. The boy, a plumber by trade, had fractured his skull fifteen months before admission, and began to suffer from epilepsy seven months afterwards. The man, a labourer, fell from a height of thirty feet on to his head nine years ago; had been more or less deaf with the right ear ever since, and began to

suffer from epilepsy three years ago. There had been no discharge from the ear, and no decided headache. In both cases, Dr. Fuller attributed the fits to chronic thickening of the dura mater, or, possibly, deposit between it and the bone, the result of the injury. To the boy he gave the biniodide of mercury, and did not have recourse to any local treatment. To the man he also administered the biniodide ; but in consequence of the increasing frequency of his attacks, and the gradually increasing deafness, made use at the same time of a seton in the neck. Since the first week of the administration of the remedies neither of these patients experienced the slightest return of the fits. The boy feels quite well, and the man's deafness has greatly decreased. Nevertheless, Dr. Fuller directed that they should continue the remedies for at least another month or six weeks, with the view of completing the removal of the thickening to which he believes the fits to be attributable. Dr. Fuller administers the medicine in a state of solution, and believes that to this circumstance is, in great measure, due the success which has attended its exhibition. The scarlet red biniodide usually employed in medicine is insoluble in water, and when administered in pills is on that account comparatively inert ; whereas the biniodide, as given by Dr. Fuller, is perfectly soluble, forms a colourless solution, is readily absorbed, and speedily produces its specific effects. The solution is formed extemporarily by the addition of from five to ten grains of iodide of potassium to 3*j.* or 3*j.* of the liquor hydrargyri bichloridi. In cases such as those above alluded to, Dr. Fuller gives it uncombined with other remedies ; whilst in cachectic rheumatism, accompanied by periosteal swelling, he usually combines it with bark and sarsaparilla. In his work on 'Rheumatism, Rheumatic Gout, and Sciatica,' 2d ed., p. 413, he says :—"The biniodide of mercury kept in solution by an excess of iodide of potassium, has proved in my hands the most valuable of all medicines in rheumatism which has supervened in a system tainted by the syphilitic poison, and in several instances has effected a cure after the bichloride had been given in vain."

ART. 28.—Tetanoid symptoms arising from an over dose of Morphia.
By Dr. CHARLES J. SHEARMAN.

(*Medical Times and Gazette*, March 7, 1857.)

The essential particulars of this case are thus given by Dr. Shearman :

CASE.—A lady, married, æt. 26, suffers most severely from painful menstruation. She has been in habit of taking, during the last three years, from time to time, a dose of the following mixture, which scarcely ever failed to relieve the severe dorsal and abdominal pain and spasm from which she suffered at those periods : Rx. Morphiæ acetatis, gr. iij; spir. etheris sulph. comp., 5*ijj*; mist. camphoræ, aquæ destillatæ, aa 3*ijj*. M. ft. mist. One tablespoonful for a dose.

On the 24th of October last, the pain was very severe. She took a dose about 4 p.m., repeated it at 7 p.m., there being no relief. Soon after the second dose I was sent for, and found her suffering from severe lumbar and

inguinal pain of the usual character, with bearing down, and copious menstrual flow; the abdomen tender to the slightest touch, even the pressure of the bedclothes was most distressing; the pulse was quiet; skin moist, and in other respects natural; tongue clean; stomach irritable.

The mixture was repeated about 11 p.m. Half an hour after this I was again summoned, and found her limbs violently twitched from time to time under the clothes, spasmodic twitchings of the face, first on one side, then on the other; difficulty of deglutition; spasmodic action of the muscles of the arms and legs (chiefly of the extensors), and of the abdominal muscles; and while I remained with her partial opisthotonus occurred, and she frequently was jerked upwards and to the right side by the violence of the muscular action of the left. Titillation of the skin and quick pressure of the muscles at once induced the twitchings. Consciousness was perfect. Volition did not induce the spasms. No hysterical symptoms. The twitchings had occurred, she then stated to me (but only slightly), after each former dose of the mixture, but thinking the mixture was the cause of it did not mention it. Its subsequent violence alarmed her. During the continuance of these symptoms the original pain continued unabated.

I at once ascertained whether there had been any error in the mixture; it was correctly made up. Having seen repeatedly similar (but to a much slighter extent) symptoms from morphia I discontinued the mixture, directing, if the spasms did not soon cease, to give Acid. hydrocyan. dilut. (Ph. L) $mijj$: aquæ fontanæ $\frac{3}{2}ss$. every three hours, and the spine to be gently rubbed with the following: R Tinct. aconiti (ex formula Flemingii); lin. saponis, $\frac{aa}{2}zj$. M. ft. linimentum.

The next morning (October 25) she was quite well.

ART. 29.—Camphor in the tetanoid symptoms arising from Strychnia.
By Dr. G. W. ARNETT.

(Charleston Med. Journ. and Review, Jan. 1857.)

Dr. Arnett's case might be more exact in several particulars, but it seems to deserve attention as showing the beneficial effects of stimulants in the treatment of tetanoid symptoms. At any rate, it is to one or other stimulant remedy that we should have recourse in a similar emergency.

"On the 20th of February, 1853, I was called in haste to visit a negro, æt. 28 years, the property of R. C. and W. J. Hutchinson. Having but a short distance to ride, I was soon at the bedside of my patient, when I observed the following symptoms: The patient was on his back in bed, his body slightly inclined to the right side; face and body covered with a profuse perspiration; countenance indicating the most intense pain and fear; head thrown back; and the muscles of the neck and back greatly contracted. This opisthotonic condition would last only a short time (the exact time not observed), and then gradually subside. The remission would not be complete before the trismatic symptoms would again return with increased severity. The pulse varied from ninety to one hundred and ten beats. The mind remained unimpaired, and also deglutition and articulation, except when the spasm was on him.

"The urgency of the case prevented my making any further observations at the time.

"I had but two remedies on which I could rely with anything like a prospect of success.

"I had read in the 'New Orleans Medical and Surgical Journal,' that camphor had been used with complete success. The other remedy which I had resolved on using, in case the camphor failed, was adipose substances. My idea of this remedy—if a remedy at all—was obtained from observing that strychnine would seldom poison wolves and other animals when concealed in fat meats. From this fact I concluded that oleaginous matters would destroy the poisoning action of strychnine.

"As the patient had been freely vomited by Mr. H—, before my arrival, I determined to try the effects of the camphor immediately. I gave f. ȝij of a tincture, made on the place, by dissolving camphor in common whiskey, as much as it would take up. In fifteen minutes the severity of the symptoms began to decline, which continued till the expiration of thirty minutes, when a second dose of the same quantity was given with the same well-marked results. And in two hours from the time that I first saw the case there were no unfavorable symptoms existing. I visited the boy the next day, when I found him still convalescing. He complained of some soreness along the spine, and a giddiness of the head; all of which passed off within the next twenty hours, leaving him free from all complaint."

ART. 30.—*On Chorea and its affinity to Rheumatism.*
By Dr. A. B. SNELL.

(*New York Journal of Medicine*, Nov., 1856.)

The object of this paper is to support the theory hinted at by Simon, that chorea, like rheumatism, is essentially a humoral disorder, depending for its cause upon some qualitative changes in the blood; that the materies morbi is generated in the system as a product of malassimilation or vicious metamorphic action.

That rheumatism is a blood-disease there cannot now be the possibility of doubt or denial, and, although the cause which gives rise to it has not received actual demonstration, it is none the less established that it depends upon a poison in the blood. Indeed, the researches of modern science have almost positively ascertained it to be of a specific character, viz., lactic acid, a natural excretion of the skin.

The precise nature of the poison in chorea it would be premature, in the present state of our knowledge, to assert. We may, however, hazard the conjecture that, if not identical with that of rheumatism, it is something readily convertible into it.

Simon, the only person who has given us anything like a rational and scientific view of the subject, in his late work on pathology, says: "As regards the affinity between chorea and rheumatism it does not by any means appear that the humoral disorder is identical in the two diseases, since they are never coincident in their occurrence; but it seems rather that the material which collects in the blood, prior to an attack of rheumatic fever, and which, by its explosive decomposition, subsequently evolves the numerous evacuations of the disease, may, while accumulating within the circulating current in its original

form, become capable of producing that irritation of the nervous centres characteristic of chorea."

To illustrate how this theory is confirmed by facts, Dr. Snell subjoins brief details of four cases occurring in the practice of his father, which were taken without reference to any hypothesis.

CASE 1.—A girl, æt. 10, whose father died of rheumatism, became slowly affected with chorea, for which the usual course of remedies, including iron, was administered, and she got comparatively well. The duration of recovery was, however, short, only to give way to a disease far more serious in its consequences. In about a month, acute rheumatism with its cardiac complications supervened with great intensity, and, in spite of treatment, she died.

Here we have a succession of phenomena which harmonize so completely with our theory of the disease that it is impossible to overlook them. Do they not clearly indicate to us the kindred nature of the two affections? Does it not appear that there is a constitutional diathesis here, which, being corrected for a time, again manifests itself in a new and modified form?

CASE 2.—This case is very similar to the first, except the patient is a girl, æt. 16. The muscular agitation here was extreme. She could not control even her most voluntary movements. If she started for one part of the room, she was quite likely to find herself in another. Finally, it subsided, and well-developed rheumatism set in, and proceeded rapidly to her death.

The general features of this case are so much like those of the first, that there is nothing to be particularly commented upon.

CASE 3.—This is the case of a boy, æt. 8, whose father is subject to rheumatism, and whose little brother, of five years, has been afflicted with a urinary deposit, probably of the lithates. He has been the subject of chorea and rheumatism at various times for three years, vacillating between health, chorea, and rheumatism. Twice has he been under medicinal treatment for chorea, and cured. After an interval of a month or so, rheumatism of a sub-acute character would show itself, keeping him from school and confining him to the house, and this, again, followed by the enjoyment of health or at least by freedom from either disease.

CASE 4.—A young lady, æt. 17, was attacked with chorea at the age of seven or eight, which continued three years—chorea in summer and rheumatism in winter. From ten to fourteen, she had slight attacks of chorea occasionally, but, on the whole, enjoyed tolerable health until the fall of 1855, when she was attacked with acute rheumatism, complicated with endocarditis. She was confined to her bed all winter, but is now quite restored.

"The last two cases," says Dr. Snell, "exemplify the affinity of the two diseases in so clear and unmistakeable a light, that the most sceptical would find it difficult to gainsay or raise an objection. We see rheumatism obeying the law of hereditary transmission; we see the offspring of rheumatic parents prone to chorea; we see the two blending together—chorea giving way to rheumatism, and rheumatism relapsing into chorea.

"Upon the whole, we cannot but believe that the simple and true views of their relation is to be found in the morbid condition of the blood which is admitted to exist in the rheumatic constitution. That the inflammatory affections of the fibrous tissues, as well as the spasmodic twitchings of the muscles and tendons, originate in the same specific disorder of the circulating fluids.

"In considering how much has been already achieved in this depart-

ment of our science, we may confidently hope that the labours of the microscope and the advancing light of organic chemistry will, ere long, reveal to us the precise nature of the disorder. Until then it will be difficult to deduce philosophical principles of treatment. To check the further conversion of material in the blood—to destroy the poison or turn it into a harmless condition—or to anticipate the eliminative efforts of nature—these are indications which pathology would suggest, and these have already, in great part, attained the sanction of experience."

ART. 31.—*Treatment of Chorea by Splints.*
By THOMAS L. MONAHAN.

(*Dublin Hospital Gazette*, Feb. 15, 1857.)

"On the 19th of December, 1856," writes Dr. Monahan, "I was requested to see Master S., æt. 13, who for the last two or three days was suffering from involuntary and tremulous motions of almost all the voluntary muscles. The parents being greatly alarmed, a consultation was agreed upon. With considerable difficulty the boy was taken to Dr. Stokes. He and I arranged that the usual anti-choreic medicines should be tried; in addition, the patient had the benefit of country air and tepid shower-baths. The remedies recommended were regularly administered for over three weeks, by an experienced nurse, without any amelioration of symptoms. I then had recourse to splints; the night they were applied the boy slept well; and on their removal in the morning, there was scarcely any involuntary motion of the muscles observed. By using the splints for a few days and nights, the boy was restored to convalescence. The relief obtained by their use was so sudden and striking, that neither the parents or patient could be induced altogether to dispense with them, lest the disease should return. The above is the only case of chorea in which I have used splints; they proving efficacious, after the failure of the usual remedies, induced me to report this case."

Dr. Monahan also refers to a former case, treated in the same manner and with the same results, of which the particulars are given in the '*Dublin Hospital Gazette*' for December 1st, 1855.

ART. 32.—*On the treatment of Laryngismus Stridulus by partial narcotism.* By MR. THOMAS PAGET.

(*British Med. Journal*, March 7, 1857.)

"If," writes Mr. Paget, "we have been correct in fixing upon teething as the one exciting cause of laryngismus stridulus; correct also in concluding that it becomes operative only through the excitability which is natural to infancy, but obtains in an exaggerated degree in certain individuals, it results that after the removal of the exciting cause, and taking care that no irritability of the visceral nerves shall add fuel to the fire; in fact, after lancing the gums,

effecting a clearance of the bowels, and contriving a prescription, dietetic and medicinal, for the correction and prevention of acrimony in the bowels, we are left to what I believe to be our most important object, namely, the subjection of nerve-excitement by means of narcotics: we are left, in short, to deal with the mainspring of the disease, its predisposing cause. Upon the narcotic to be used, upon the mode of giving it, or the dose required, I need lay but little stress, especially since it is well known how varied is the susceptibility of individuals in reference to this class of medicines. Suffice it to say, that the drug I have most used is opium; that, beginning with small doses, and cautiously regulating them according to their effect, I do not stop short of producing a constant drowsiness and some slight pallor; that when this state is obtained, the paroxysms decrease in force and frequency, the infant is calmly sleeping its day away, no longer devil-torn, nor are its friends racked with anxiety; and that when the paroxysms have failed to occur for some forty-eight hours, which will usually happen in from three to six days, the drug is gradually withdrawn, the quantity taken off each dose being immediately restored if the attacks show the slightest disposition to encroach again. I may say, also, that to attain to the required effect I have usually been obliged to give to children four or five months old (the age at which the disease most commonly, perhaps, invades) from one to five minims of tincture of opium in a dose with four or six of sal volatile two or three times a day; or if in enemata, five to seven minims.

"The principle, then, I would enunciate as the object of treatment after the more obvious ones, the removal of all causes of irritation, is the quieting of nerve-excitability—the drowning of hyperæsthesia in a guarded, gentle, yet decided narcotism. I think it probable I may find that there is nothing new in the treatment itself; that, in fact, others have for years pursued the same. It seems to myself so obvious a course that I should be almost surprised to find that it had struck me alone as the proper one. It is, however, the first time, as far as I know, that this principle has appeared in public.

"I have depended upon it for the period of twenty years and more; I cannot add, without losing a case; but I can say that it has saved many, or seemed to do so; and with the strictest investigation memory is capable of affording, I see no reason to doubt its safety, its efficiency, or the prudence of continuing it. I therefore adopt it in every instance that presents itself."

ART. 33.—*On two cases of Tonic Spasms in the Hands and Feet.*
By Dr. CAR. TOBIESEN.

(*Norsk Mag. for Lægevidenskaben*, 1856; and *Dublin Quarterly Journal of Medical Science*, Feb., 1857.)

On the 12th of July, 1854, Dr. Tobiesen was called to see two little boys, living at a short distance from Farsund, in Denmark, who were stated to be suffering from convulsions.

CASE 1.—The boy A—, aet. 8, in bed, crying, with pains in his hands and feet. His hands and fingers were in a state of constant flexion, and the flexors were tense and hard. On any violent attempt to extend them, painful contractions came on in the flexors; but he thought he felt relief from moderate extension; and, therefore, kept his father beside him engaged in this manœuvre. These more violent and painful contractions occurred spontaneously, at shorter or longer intervals, from a few minutes to half an hour, and again passed off in the course of from five to ten minutes, leaving behind them, however, a tonic contraction of the flexors. The feet were adducted, the toes were inflected, and the muscles of the calves of the legs were hard and tense. All these muscles, thus in a state of tonic contraction, were subjected to the same painful contractions as the hands, with, however, some variation, thus:—At one time all the limbs were contracted together; at another a foot and a hand; again, both hands or both feet; again, one foot or one hand alone. The power of motion was in other respects unimpaired, that is to say, there was no paralysis, and the sensibility was normal, unless possibly it was slightly increased. The temperature of the hands and feet was normal. During the painful contractions the respiration was laboured, as was evidenced by long, asthmatic inspirations; the countenance acquired an anxious expression, somewhat indicative of suffering, but otherwise presented nothing striking. The temperature was normal; the pulse regular, not feverish; the colour of the face was natural; there was no injection of the eyes, nor any heat of head, and consciousness was perfect; the voice and deglutition were natural. No abnormality was found on examining the spine; there was no pain on pressure of any vertebra; motion was free in all directions, and was unattended with pain; the tongue was clean; there was no thirst; the appetite was tolerable; the bowels were regular, and there was free evacuation of clear and light-coloured urine.

CASE 2.—The boy N—, aet. 6, presented exactly the same tonic contraction in the hands and feet, accompanied by the same intercurrent, more violent contractions; but in this patient the latter were not so painful, nor were they attended with dyspncea, only with crying and moaning. The other functions were regular, and in everything else this case resembled that first described.

The father stated that the children, who previously had always been healthy, bathed, on the 10th of July, in a pool or pond, formed by the rain collecting in an excavation in dry sand outside the house. The weather was at the time extremely warm, and the children had bathed at noon, in the greatest heat of the day, though it was blowing a little, as is always the case at that farm, which is situated close to the sea-shore. The cramps began on the following day, without the children having complained of feeling ill, and had continued uninterruptedly in the same manner, except during sleep, when the limbs retained, indeed, the same contracted position, but were at rest.

During the following three days the spasms gradually diminished—first the jerkings, then the tonic contractions—and, with the exception of some trifling weakness, the recovery was perfect in about ten days. The treatment consisted of diaphoretics, small doses of opium, and stimulating liniment to the affected parts.

The cases are accompanied by some speculative remarks, but they do not shed much light upon the matter.

ART. 34.—Treatment of Neuralgia by Valerianate of Ammonia.
By Dr. DECLAT.

(*Philadelphia Medical Examiner, Oct., 1856.*)

In a recent number of the 'Bulletin de Therapeutique,' Dr. Declat relates several cases which seem to show that happy effects may be expected from the use of this compound.

CASE 1.—Madame the Marchioness of Fontanelle (the lady has authorised us to give her name) was attacked six years ago with facial neuralgia of the most severe description. The pain was first experienced while cutting a wisdom tooth, which was late in making its appearance. As this tooth came through in a wrong direction, Drs. A. Legrand and Jobert de Lamballe ordered its extraction. The pain was so violent that Madame de Fontanelle was unable to open her mouth, and they were obliged to give her chloroform.

After the removal of the tooth, the neuralgia still continued. All the ordinary means were employed to relieve it; internally sulphate of quinine, opium, belladonna, sulphate of strychnia, iron, gold, and quin-quina were administered, as well as external applications of opium plaster, blisters, morphia, dulcamara, chloroform, collodion, aconite, &c. &c.

Professors Sedillot and Velpeau saw the patient without being able to give her any relief. Professor Jobert de Lamballe proposed and obtained permission to apply the actual cautery over the course of the inferior maxillary nerve. This treatment, so terrifying to a woman, slightly lessened the acuteness of the pain, but failed to overcome it; and though suffering less, Madame de Fontanelle could neither eat nor sleep; being compelled, during at least six months, to have recourse to nutritive enemata, and tonic baths to preserve her health and life.

The waters of Plombières diminished, for a time, the frequency of the pains; during the second season, no benefit was derived from their action; the third, her malady was increased. She was in this suffering state when, on the 19th December, 1855, she was placed under my care.

The amelioration of her complaint produced by the waters of Plombières during the first season, determined me to use Fowler's solution.

The invalid consented the more willingly to this means as she preferred death, she said, to insanity from suffering. One of her friends, also, Madame de Balzac, had written to her from Germany, that this remedy was in frequent use in the country in which she lived, and that it had, to her knowledge, cured more than one case of neuralgia.

From the 19th to the 22d of December, 12 drops in the morning, 12 drops at noon, and 12 drops in the evening of the following mixture were given her;

Fowler's solution	.	.	.	.	$\frac{1}{4}$
Mint water	.	.	.	.	$\frac{3}{4}$

On the 22d, there was a little improvement, but the tongue was red, and she suffered much pain in the stomach; Madame de Fontanelle would not consent to diminish the next dose, as the slight amelioration she had experienced made her sanguine of more complete relief.

On the 24th, vomiting, diarrhoea, cramps in the stomach and pains returned. We discontinued the medicine.

On the 3d of January, 1856, the agony was unendurable, and my patient was in despair. I tried the valerianate of ammonia.

A teaspoonful, taken in the evening, modified the pain at night, and rendered it bearable. Two teaspoonsful the next day gave complete relief.

On the 6th of January, the patient could rise and speak.

On the 19th, she half opened her mouth and began to eat. The 3d of February, Madame de Fontanelle came up to me smilingly, and welcomed me, saying, "Doctor, I have been well enough to dine in town; I can laugh; in society they look upon me as one risen from the dead." We gradually increased the dose to a dessert-spoonful morning and evening; the improvement now became so great that her countenance resumed an entirely different aspect, and her appetite came back as hope returned.

Finally, on the 6th of May, the pains having for several days entirely ceased, we suspended the use of the medicine. Several weeks passed without a single twinge; but at the return of first pain, the Marchioness snatched the bottle and took a dose of the valerianate.

From time to time, some shooting pains were felt; but every time the valerianate was resorted to they disappeared. The improvement continues, and there is nothing to cause us to anticipate that the remedy will lose its efficacy should the disease return.

The case given above is one of importance. From the first the patient had been attended with care, and even affection, by the most eminent physicians; for six years almost every known means had been employed, without results of any duration.

This case of neuralgia was much more obstinate and unmanageable from its being an hereditary affection. Madame de Fontanelle's mother had suffered fearfully from a similar neuralgia. Her brother, the Count of Essex, (sic!) has had tic douloureux from his youth; and he is as well known in England from the great suffering he has gone through from it as from his high position.

Doctor A. Legrand has, throughout, watched this cure which he had pronounced hopeless six years ago; wishing himself to verify the value of the new medicine, he ordered it in the same doses to Madame de V—, whom he considered equally incurable. We know that the relief has been quite prompt; but we understand, from his having too rapidly increased the dose, that some cerebral disturbance was produced. These symptoms, however, disappeared as soon as the valerianate was given in proper doses. At present, Madame de V— considers herself cured.

CASE 2.—M. E. Letellier accompanied his wife to Plombières. During his sojourn at the waters, in the beginning of October, he was attacked with a pain in the head; this pain extended to the muscles of the neck, passed through the top of the head, and lost itself in the branches of the facial nerve. It was impossible for the patient to raise his head from the pillow. Various remedies were tried at Plombières, but the pains increased and the sufferer was taken back to Paris.

The least movement was so painful to him that he could only bear the journey by having his head supported by Madame Letellier's hands.

Dr. Louis tried blisters, sage, quinine, and morphia, without any effect. To relieve his pain, M. Letellier took so much morphia as to fall into an alarming state of torpor.

On the 1st of October, 1855, we found the sick man in a state of extreme agony; he had not taken any morphia for two days, and suffered constantly.

On the same day, we began to use the valerianate of ammonia, two tea-spoonsful during the day in a half glass of eau sucrée. That night he had a little rest.

By continuing the use of the valerianate without increasing the dose, the patient was able to get up at the end of five days. On the ninth day he walked out to take a bath; he no longer felt any pain except in his neck and

the back of his head; his nights became comfortable, his abilities and aptitude for business entirely restored.

Finally, from the 24th of the same month, we discontinued our visits.

We met him again recently, and he tells us that he has had some slight twinges, which are at once dissipated by a spoonful of the valerianate.

ART. 35.—*Case of long-standing Neuralgia cured by the local injection of Morphia.* By Mr. JAMES OLIVER.

(*Edinburgh Medical Journal*, April, 1857.)

This case is another illustration of the successful application of the practice recommended by Dr. Alex. Wood a short time ago, (*vide "Abstract."*) The pain was seated in the abdominal parietes; it was of four years' standing; and all the usual remedies had been tried in vain. It is somewhat remarkable that the only effect of the prolonged administration of chloroform was a slight salivation for two or three days. Mr. Oliver writes:

CASE.—“I was requested, on the evening of Saturday, the 6th December, 1856, by Mr P., a medical friend, to visit his wife, who, he informed me, was suffering severe pain in the abdomen. I found her in bed, twisting herself into all manner of shapes, and screaming from the intensity of the pain, which I discovered to be situated between the ribs and the groin on the left side. Her face was flushed, and expressive of great agony; her skin was cool, and her pulse beat sixty-five times in the minute. She had also been sick, and had vomited several times; but as her bowels had not acted for a week, this was easily accounted for, and evidently had no connection with the pain, which I at once diagnosed as neuralgic.

“On making further inquiries, I was confirmed in my opinion that the pain was of a neuralgic nature; for I learned that the patient had suffered from this pain periodically for four years; that at first it occurred at long intervals, and lasted but a short time; but that latterly it came on more frequently, was increasing in severity at each attack, and was of much longer duration. Various remedies had been tried at different times without effect, as the patient affirmed that she was not conscious of having ever experienced any relief from them, —a statement which was corroborated by her husband, who expressed himself as being at his wit's end concerning the case. At the time of my visit the pain had continued for six hours, and as opiates were contraindicated by the state of the bowels, I determined to try the effects of chloroform. After the administration of appropriate remedies for relief of the constipation, the patient was made to inhale chloroform, and was speedily under its influence. Anæsthesia was maintained for two hours, when the patient was allowed to awake; but the pain still continued, and was as vehement as ever. The inhalation was immediately recommenced, and I requested Mr. P. to keep it up for several hours before allowing Mrs. P. to regain her consciousness.

“On visiting the patient next morning, I was informed that she had been kept under chloroform till four o'clock a.m. She then felt easier, though not entirely free from pain, and fell into a troubled sleep, which continued for about two hours. On the afternoon of the same day, the pain returned with great severity, and chloroform was again administered, and continued for ten hours with the effect of partially removing it. This immunity, however, was of very short duration, as another and very severe attack occurred in about

two hours—the patient at the same time eagerly crying out for the chloroform, which was again administered. From this time, the morning of the 9th December, till the morning of the 14th, she was almost constantly under the influence of the anæsthetic, as the pain was never for a moment absent, and was so excruciating as almost to prevent her taking any nourishment when she was roused for a few minutes for that purpose.

"At 11 o'clock, a.m., on the 14th December, at the suggestion of Dr. Simpson, whom I consulted concerning the case, about sixty drops of the Sol. Mur. Morph. were injected with Dr. Alexander Wood's graduated syringe into the cellular tissue of the part affected, and in a few minutes the patient fell into a profound sleep. At 7 o'clock, p.m., she was roused, and, after swallowing a cup of tea, immediately fell asleep again, and remained in that state till about 8 o'clock next morning. On awaking, she looked round with a cheerful countenance, said she was entirely free from pain, and expressed an urgent desire to have some breakfast immediately. Mrs. P. was ordered a ferruginous tonic for a week or two after this attack, and is now in the enjoyment of better health than she has possessed for a very considerable time. I saw her about ten days ago, and she feels deeply grateful for being relieved by such simple means from a very painful disease, and one that rendered her life miserable for the last four years.

ART. 36.—*On the pathology of some forms of local Nervous Disorders.*
By DR. GEORGE ROBINSON.

(*Newcastle and Gateshead Pathol. Transactions, Session 1855-56.*)

Perhaps in no department of medicine has the progress of sound pathology been more rapid, or its development more conducive to practical improvements, than in disorders of the nervous system. Nor have any modern advances in medical science more clearly and forcibly demonstrated the inseparable dependence of pathology and therapeutics upon physiology, than those in question.

Without the light cast upon the physiology of the spinal cord by the researches of Sir Charles Bell, how confused would still be our ideas of the nature and causation, how erroneous our interpretation of the symptoms, of many important local disorders of sensation and voluntary motion. Or if deprived of a knowledge of that great law of excitomotory action, by means of which the genius of Dr. Marshall Hall has connected an immense number of remote, and apparently inconsequential phenomena, how feeble and pointless would still be our efforts to remedy many of those convulsive diseases which originate in distant, and comparatively trivial sources of irritation.

Seeing, then, that the study of the laws of healthy nervous action has been found the most efficient means of advancing our knowledge of the disorders of that class of functions, we are encouraged to persevere in the attempt to apply to the elucidation of this subject, every remaining physiological principle yet unappropriated to the purpose. And as such a physiological law—one of considerable importance in connection with the healthy, and consequently with the disordered, action of the cerebro-spinal nerves—does exist, while its pathological and therapeutical relations have hitherto received

but little consideration, I may be excused for very briefly adverting to them.

A great and fundamental error will, if I mistake not, be found to pervade most writings on practical medicine, in reference to the physiology of the cerebro-spinal nerves. For they are generally assumed to be, and represented as, mere passive chords, conveying sensation and voluntary motive power through an inherent conductive capacity, analogous to that which, in a copper wire, induces the wonders of the electric telegraph.

It is undoubtedly true that the nerves do possess such a conducting power; but, for that power to act, vital as well as physical conditions are necessary. The nervous centres may be uninjured—the nerves themselves structurally whole—their continuity with the brain and spinal chord perfect—and yet there may be an utter absence of sensation and voluntary motion in the parts supplied by these nerves. And, in fact, unless one all-important vital condition be observed, the cerebro-spinal nerves, with all their exquisite organization and carefully arranged connection with the great centre of thought and feeling, will exist but as dead cords, insensate and powerless, incapable alike of transmitting the mandates of the will, or the monitory vibrations of pain-producing injury. That condition, it is scarcely necessary to add, is a constant and normal supply of arterial blood to the nutrient vessels of the nerves.

Now the demonstration of this law, happily, does not rest upon any indirect or circuitous process of reasoning: it is susceptible of direct ocular proof.

If we suddenly and completely obstruct the aorta of an animal, we observe that the hinder extremities are instantly paralysed, and on withdrawing the obstructive pressure from the artery, their sensitive and motor powers reenter the nerves, simultaneously with the wave of arterial blood. Nor are there wanting evidences of the operation of the same law in man. When Sir Astley Cooper tied the abdominal aorta, the lower extremities were paralysed, while severe pains were experienced in the arms and upper part of the body. And the numbness and diminished muscular power in the leg, after ligature of the femoral artery, illustrates the same principle. In like manner, the application of intense cold, by inducing a retardation, and ultimately stagnation of the blood present in the capillaries supplying the cutaneous nerves, benumbs the parts; and is accordingly employed for the purpose of diminishing or preventing the pain incident to certain surgical operations.

Now, this physiological principle once being recognised, it follows as a legitimate inference, that since the proper circulation of the blood in the capillaries of the nerves is essential to the healthy action of the latter, any irregularity in that local circulation must necessarily induce corresponding disorder in the functions of the nervous structures of the part. And if we exclude those cases in which something like actual inflammation of the investing cellular tissue, or sheath of the nerves, apparently exists, as in some forms of neuralgia, sciatica, &c., there will still remain a very great number of disorders, characterised by either an exalted or an enfeebled condition

of local nervous energy—giving rise to pain on the one hand, and to defective motor or sensitive power on the other—the majority of which, I venture to think, are very often connected with corresponding irregularities in the local circulation.

I shall not at present enter upon an examination of the various facts and arguments which might be adduced in support of this opinion; but I shall conclude with simply mentioning two practical facts which tend to support, while they themselves receive confirmation from, the pathological views in question, viz.:

1. The advantage so frequently experienced, in painful local affections, by inducing a derivative action, and thus relieving the local determination of blood to the nerves of the part, whether it be by the restoration of suppressed catamenia, or other accustomed discharge, or by promoting the equal distribution of arterial blood throughout the system, or by stimulating external applications, &c.

2. The equally marked benefit which results in cases of local enfeeblement of nervous power, from the use of friction, the douche, warm clothing, exercise, and generally from the adoption of all those hygienic and remedial measures which tend to improve the quality of the blood, while they, at the same time, impart vigour to its general and local circulation.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 37.—*Five cases of Tracheotomy in Croup, with remarks on certain points connected with the Operation.* By Dr. FULLER, Physician to St. George's Hospital.

(*Medical Times and Gazette*, Feb. 7, 1857.)

In this paper (which was read before the Medical and Chirurgical Society, 27th Jan., 1857,) Dr. Fuller begins by narrating the particulars of five cases of inflammatory croup, for the relief of which tracheotomy was performed in St. George's Hospital. In each instance the operation was deferred until the last stage of the disease, when every remedy had failed, and death was imminent. In two of the cases the operation was successful in saving life; in three it failed of its object. Four of the patients coughed up a considerable quantity of mucus or false membrane through the artificial opening, and received immense relief from the operation; while the fifth was nearly moribund at the time of its performance, and expired almost immediately afterwards. Dr. Fuller remarked that the success thus obtained is highly satisfactory, and that, unless these recoveries are quite exceptional, tracheotomy ought to be had recourse to when other remedies have failed. He admitted, however, that the inferences derivable from such a limited number of cases are not of themselves sufficient to determine the propriety of the operation, and he therefore proceeded to discuss the question generally, and endeavoured to bring together such facts as

should lead to a decision—1st, as to whether the operation of tracheotomy is justifiable in any case of croup? 2d, if so, under what conditions, and at what stage of the complaint? 3d, whether the existence of certain symptoms or other circumstances ought not to cause us to hesitate in recommending its performance? 4th, whether any, and what medical treatment is necessary after an opening has been made into the trachea? With a view to a correct appreciation of the subject, Dr. Fuller began by referring to the difference existing physiologically and pathologically between idiopathic inflammatory croup and the diphtheritic form of the disease which commonly prevails in France, and he pointed out that the objection usually urged against French statistics of tracheotomy in croup—viz., that diphtheritic cases are much more favorable for the performance of the operation than are the croup cases usually met with in this country—has no foundation in fact. He called attention to the circumstance that diphtheritis is often accompanied by glandular swellings in the neck, and œdematous fulness of the throat, whereby the operation is rendered much more difficult than in inflammatory croup, and that the type of the accompanying fever is so low as often to destroy life, quite independently of any affection of the air-passages. He then proceeded to show, by reference to 483 cases in which tracheotomy had been performed for the relief of croup in France, that the operation had proved eminently successful in the hands of French surgeons; and he reminded the society that, inasmuch as the condition of the throat externally, and the nature of the accompanying fever in diphtheritis are by no means favorable to the operation, the success which has attended it can be explained away only on the supposition, often put forward by English writers, that in France the disease seldom extends into the trachea and bronchi, and is rarely accompanied by bronchitis or pneumonia. The fallacy of this supposition he then proceeded to demonstrate by reference to the writings of French authors, and to the recorded results of the post-mortem investigation of 311 fatal cases of croup in France, and he showed that in regard to its pathological effects, diphtheritis, when accompanied by croupal symptoms, does not, as compared with inflammatory croup, present any greater prospect of success for the operation than it does in the character of its accompanying fever, or the condition of the throat externally. Having thus established the success of the operation in the hands of French surgeons, and the absence of any special cause for that success, Dr. Fuller proceeded to inquire into the circumstances which have led to the disrepute of the operation in England. These he traced to theoretical objections founded on the pathological results of the disease, to the almost unanimous and unqualified condemnation of the operation pronounced by successive English writers, and to the ill success which had attended the operation in the few cases in which it had been practised prior to the publication of their respective works. He insisted, however, that theoretical objections are of little value as compared with the results of practical experience, and he therefore appealed to that source for information on the subject. He showed, by reference to statistics derived from the Hôpital des Enfants Malades, at Paris, that whereas out of the first hundred cases operated on at

that institution one only recovered, a more extended experience in the mode of performing the operation, in the precautions requisite to ensure success, and in the carrying out of the necessary after-treatment, has led, since 1850, to the saving of 47 out of 215 cases; or, in other words, to the rescuing from death of nearly one out of every four patients. He argued thence against those persons in this country who condemn the operation simply because it is opposed to their pre-conceived notions, or has proved unsuccessful in the few instances of which they are personally cognizant. Further, he showed that even in Great Britain the recorded results of the operation afford a fair amount of success. Twenty-two cases only have been recorded in England, and in no less than eight of these life was saved by the operation; and although, doubtless, many unsuccessful cases have occurred which have not been placed on record, still Dr. Fuller argued that if life can be saved by operative interference, even in a small proportion of instances, the chance afforded by the operation ought not to be withheld where all other means have failed, except under some peculiar circumstances. Dr. Fuller next proceeded to dispute the propriety of having recourse to tracheotomy at an early stage of the disease. He showed that patients in the second stage of croup will sometimes recover under proper medical treatment, even when those symptoms appear to be desperate; and, on the other hand, that the theoretical objections commonly urged against deferring the performance of tracheotomy until the third stage of the disease, have no foundation in fact. In proof of this, he appealed to the results of the five cases which have fallen under his own observation at St. George's Hospital, as also of many of the other cases on record; and, further, to the corroborative evidence afforded by the recent change of opinion evinced by MM. Troussseau, Bretonneau, and others who formerly were most zealous in their advocacy of an early performance of the operation, and who now defer it until a much later stage. Dr. Fuller condemned the indiscriminate performance of tracheotomy in croup. So much danger and difficulty attends the operation, even in favorable cases, that he considers it almost necessarily fatal if the patient is of very tender age, or has been out of health prior to his attack of croup; if his illness has been preceded by pneumonia or severe bronchitis; if he is suffering from any exanthematous or other disorder; and, further, if he is in such a position of life that his parents are unable to secure for him proper skilled attendance night and day. He spoke of the gradual sinking sometimes observed in fatal cases, many hours after the operation, whilst all the symptoms are progressing favorably, as analogous to the sinking which occasionally takes place, under similar circumstances, in persons who have been partially asphyxiated; and he attributed it in part to pulmonary collapse, and in part to nervous exhaustion consequent on the long-continued struggles for breath. He referred to the use of tracheal tubes of too small a calibre, or of improper construction, as one great cause of the failure of the operation; and, as another, to the neglect of proper after-treatment, or to the administration of improper remedies. He pointed out that, in almost all the fatal cases on record, wine and brandy had formed the chief, if not the sole, medicaments;

whereas, in almost all the successful cases, calomel, antimony, and the measures which are considered useful before the operation, were steadily persevered in afterwards ; and he called attention to the fact, that the depression which accompanies the last stage of the disease, in which alone he recommends the operation, is the depression of asphyxia, which is to be relieved by the free admission of air, and not by the administration of stimulants. He recommended that the trachea-tubes be made somewhat larger, shorter, and less curved than those in common use ; that the outer canula be shorter than the inner one, and that both be of the same diameter from one end to the other, but that the outer one, instead of being made of one piece, as at present, should be divided longitudinally into two blades, flattened towards their inferior extremity, so as to come into close apposition, and to admit of easy introduction into the trachea. These blades should be made to open like the blades of a dilating bivalve speculum, so as to admit, when fully expanded, an inner tube of uniform diameter throughout. This arrangement could not only conduce to keeping the inner tube clear of mucus, but would render serious obstruction to the respiration well-nigh impossible, inasmuch as if the inner tube were to be clogged in any way, and the extremity of the outer canula were to be also choked with mucus, the chink existing between its expanded blades would provide a free passage of air immediately on the withdrawal of the inner tube.

ART. 38.—*On Cœdema Glottidis, resulting from Typhus Fever.*
By Dr. T. A. EMMET.

(*American Journal of Medical Science*, July, 1856.)

Cœdema glottidis, according to Dr. Emmet, may occur in two forms as a secondary affection of typhus : one, the result of simple debility ; the other, a consequence of typhous deposit and subsequent ulceration. In that form which results from debility the infiltration may take place so rapidly as to cause almost instant death ; in the other form the change takes place more gradually. In Dr. Emmet's opinion cœdema of the glottis is a much more common sequel of typhus than is usually supposed, and he says that he met with thirty instances in 1931 cases of typhus, twenty-three of these instances being the consequence of typhous deposit in the larynx. He says, moreover, that coexisting bronchitis will frequently render the performance of laryngotomy or tracheotomy impracticable. These views are supported by cases.

ART. 39.—*On the Pathology of Catarrh.* By Dr. H. SALTER, F.R.S.,
Assistant-Physician to Charing-Cross Hospital.

(*Lancet*, Jan. 3, 1857.)

What Dr. H. Salter endeavours to show is this—that the symptoms of catarrh depend on a specific animal poison ; that they are attributable either to the material presence of this poison circulating in the blood, or to the irritation which it produces in those organs which are

its constituted eliminants. He believes that the arrest of the function of the skin, from exposure to cold, throws back into the circulation that which ought to have been eliminated as the cutaneous excretion ; that this, either by itself, or by ulterior changes which it gives rise to in the blood, induces a condition of toxæmia ; that the vicarious emunctory for the correction of this state of blood-poison, by the elimination of the material for whose excretion the skin has been temporarily rendered unequal by cold, is the respiratory mucous membrane ; that the principal local symptoms—coryza, tonsillitis, bronchitis—depend upon the vascular changes in this membrane induced by this exceptional excretory function, and possibly by the irritation of the poison materially present thereat ; that as long as the blood is thus contaminated the fever symptoms persist, and that its depuration is immediately attended by their abatement.

"Now, what warrant," says Dr. Salter, "does the clinical history of catarrh give for such an interpretation ? I think it warrants it in two ways—on *physiological* grounds and on *pathological*, and I will now proceed to show you how.

"The physiological argument rests upon the following postulates, which are capable of complete demonstration :—

"1. That the vigour of secreting function and the amount of its results are affected by the quantity of blood supplied to the secreting organ.

"2. That cold is an agent that exsanguines organs to which it is applied, and depresses their circulation.

"3. That the skin is a great superficial gland, constantly carrying on an active secretion, and peculiarly amenable to the influence of cold.

"4. That that which ought to be, and is not, eliminated, becomes, by being thrown back upon the circulation, tantamount to something introduced from without, and is a virtual poison.

"Grant these postulates, and the theory of catarrh which I have above enunciated follows as an inevitable conclusion.

"The pathological argument rests partly on the *clinical history* of catarrh, and partly on *analogical grounds*.

"1. The clinical history of catarrh, I think, clearly suggests such a pathology as I have propounded. To take one of its commonest incidents :—A man gets wet feet to-day and shivers ; he goes to bed, and to-morrow he wakes with a sore-throat, and can hardly swallow ; he knows beforehand that such will be the case, and it is (in persons liable to quinsy the throat affection is almost always preceded by a recognised exposure to cold, which they fear accordingly). Now, how can these symptoms, the wet feet one day and the sore-throat or chest the next, be connected except by the links which the theory I have suggested supplies—by the suppressed cutaneous action, the consequential blood contamination, its vicarious depuration by certain parts of the respiratory mucous membrane, and the inflammation of these parts from the presence of the morbid material in them. The parts—the feet and throat—are at the opposite ends of the body ; they are not physiologically connected, and pathologically only in the way that I have mentioned.

" 2. The analogical grounds with which pathology furnishes us, for such an interpretation of catarrh as I have suggested are—

" a. That the symptoms of catarrh are of exactly the same *kind* as those of acknowledged blood-poison diseases.

" b. That other diseases show us that where the depressed action of one organ has contaminated the blood, the contaminating material is eliminated by another.

" The symptoms of diseases depending on specific blood-poisoning, such as typhus, scarlatina, measles, are of two kinds—*general*, depending on the impression made upon the nervous system by the poison, and *local*, from the irritation, inflammation, or whatever it may be, of the excretory organs, set up by the material presence of the poison they are attracting to themselves, and draughting away. Now, the symptoms of catarrh are just such. The *general* symptoms—the malaise, the lassitude, the anorexia, the general aching, the enfeebled and quickened circulation, the subsequent reaction, &c., are those of fever. And catarrh *is* a fever. And there is one fever to whose initiatory symptoms the general symptoms of catarrh bear a special and a very close resemblance, and that is *typhus*. And this is a point to which I would direct your particular attention, for it is one to which I have never seen or heard any reference, and one of great practical importance; for the alternative of the two cases is, as far as prognosis goes, so widely divergent,—the one disease a bagatelle, the other full of danger,—and consequently the discredit you would incur with the uninitiated and undiscerning in case of mistake so great, that you cannot have it too clearly impressed on your minds. I know of no two conditions more easily confounded than the early symptoms of fever and severe febrile catarrh; I believe they are sometimes, for a day or two, actually not to be distinguished. Very lately I pronounced a case, in private practice, to be a mere rheum from exposure to cold, which in a few days turned out to be typhus, and several cases I have thought to be incipient fever that have turned out mere catarrh; one such case, and a very striking one, I shall relate to you presently when speaking of another point—the diagnostic value of the *labial herpes*. I do not mean to say that most or a large proportion of cases of catarrh are capable of being confounded with the initiatory symptoms of fever, but that many are, and especially those cases in which the general symptoms are strongly marked, and the local but slightly. Indeed, it is in the general symptoms—that peculiar condition of the nervous and vascular systems—the headache, lassitude, aching, want of appetite, thirst, loaded tongue, pallor, quickened and feeble pulse, drooping eyelids, &c.—that the resemblance to fever exists. But the analogy of the symptoms of catarrh to those of undoubted blood-poison diseases is further borne out by the *local* symptoms, which, as in the case in all specific-poison fevers, are situated in organs possessing an excretory structure and function, and therefore capable of acting as emunctories. The respiratory and faucial mucous membranes are the chief seats of local mischief; their inflammation is accompanied and followed by an increase of their secretion, and a remission of the general symptoms.

" But, you will tell me, there is one link deficient in my chain of

analogies that binds catarrh to the fevers depending on specific poisons. ‘Where,’ you will ask me, ‘is the eruption, where is the representative of that cardinal symptom of the poison-fevers?’ I reply, ‘In *herpes labialis*.’ I believe this to be the specific eruption of catarrh. I have never seen a case of it (and I have very carefully looked out for it for several years) which has not been preceded by catarrhal symptoms; I know numbers of people, and I myself am an instance, who never have catarrh without it; I do not say never have coryza or a little cold in the head, but never have regular catarrh, attended with feverish symptoms, without the attack being wound up by the appearance of a crop of *herpes labialis*. This is generally recognised; the public know it well enough; and the appearance of the eruption is always recognised with the exclamation, ‘Dear me, what a *cold* you have got!’ It is a well-known fact that it is very common in pneumonia, but, as far I have seen, those cases of pneumonia in which it occurs are always of catarrhal origin, inflammation of the parenchyma of the lungs being a not uncommon complication of catarrh,—the most common, in fact, next to that of the faacial and respiratory mucous membranes. I do not mean to say that *herpes labialis* as certainly accompanies catarrh as the eruption of smallpox and scarlatina do those fevers respectively; many people, doubtless, never have it; but I believe that a great number always do, and that though its absence is not *negatively* conclusive, its presence is *positively*, that its appearance is diagnostic. You all of you know how constantly I am calling your attention to it, and how invariably correct a diagnosis based on it is. I have had several cases lately, of the nature of which I did not feel certain, decided by the eruption of a crop of the characteristic vesicles around the mouth: one of these cases I will relate to you.

“Together with the vesicles upon the lip, there commonly, almost constantly, occurs a little ulcer or two on the tongue, one generally being at the very tip. These ulcers are herpes, only occurring on the mucous membrane instead of the skin. Each of them has been the seat of an herpetic vesicle, and if you catch them early, you may see the little vesicle before it breaks. It seems to be law of herpes, and one can easily understand it, that whereas when it occurs on the skin it terminates in a sort of clear, honey-like crust (*h. labialis* and *zoster*), when it occurs on mucous membrane it terminates in ulcer (*h. preputialis*), the epithelium is destroyed by the vesicle, a raw surface is left, and the exudation, which on the skin dries and becomes protective, on the mucous membrane is kept moist and removed with the secretion of the part, so that the denuded portion remains open and unprotected. I have often surprised patients who have had catarrh, with herpes on their lip, by telling them that they have an ulcer on the tip of their tongue; they commonly have; but telling them of it without having seen it seems to them like conjuration, and they cannot make it out. I have sometimes seen, in cases of catarrh, the characteristic ulcers on the tongue, with none of the eruption on the lip—the herpes has fallen on the mucous membrane exclusively—but this is not common.

“The conclusions that I have come to with regard to this eruption are—

"That it is probably always symptomatic of catarrh.

"That those persons who ever have it with catarrh always do with every genuine attack.

"That some persons never have it; that its presence, therefore, is positively, but its absence not negatively diagnostic.

"That its favorite seat is the debatable ground between lip and skin,—the edge of the lip, generally the lower, and near the middle; but that it frequently occurs on the tongue.

"That its usual time of appearance is on the fourth day.

"That it is always attended with a remission of the general symptoms.

"That the exuberance of the crop of vesicles bears no relation to the severity of the attack of catarrh."

ART. 40.—*On the use of Belladonna in Hooping-cough.*

By Dr. L. TURNBULL.

(*Pamphlet. Philadelphia, 1855.*)

The following remarks are taken from a paper called "Hooping-cough, its History, Nature, and successful Treatment," which paper was read before the Philadelphia County Medical Society, March, 1855:

"During the whole stage of the disease," says Dr. Turnbull, "demulcent drinks should be freely administered, such as flax-seed tea, barley or rice water. When fully satisfied that the inflammation has been subdued, indicated by a slower pulse, less heat of skin, and no active congestion of the brain or lungs, I have then followed the treatment with belladonna, and my success with this remedy has been most gratifying. Before administering it I tried, in vain, the free use of cochineal in combination with alkalies, assafetida, opium, alum, hydrocyanic acid, &c. In every instance in which the system was fully brought under the influence of the belladonna, indicated by dilatation of the pupil with confused vision and reddened skin, I was enabled to check the annoying cough and hoop of thirteen children during the months of May and June, 1854, and seven cases since that time, making twenty cases in all, eight males and twenty females; the youngest was nine months and the eldest ten years.

"The following was the method followed: the system being prepared by reducing the inflammation by the means before spoken of, obtain, if possible, English extract of belladonna, fresh and good; let the extract be triturated with water or simple syrup; if it is to be kept for some time, add a small quantity of alcohol. The dose for a child three months old is the sixteenth of a grain every three hours. to a child one year one eighth of a grain, and so to other ages in proportion.

"Inform the parent or nurse of the change it will produce upon the eye, also that it may reddens the skin. When full dilatation of the pupil is brought about, the medicine is to be intermitted until it has gone off again; the belladonna is to be administered in slightly increasing doses, so as to keep the child under its influence for several

days or until the paroxysms are checked, which will usually occur towards the sixth or eighth day of the second stage.

"In the twenty cases cured by the use of the belladonna the cough and hoop returned in a few cases on exposure to cold, or in disagreeable, windy weather; but by combining the extract with syrup of ipecacuanha a few doses soon checked the cough and hoop; in only one case out of this number was it complicated with inflammation of the lungs, and this case recovered.

"The average duration of my twenty cases was ten days, after the hoop had commenced when the case was free from complications, which shows the great advantage of this treatment. The ordinary duration of the disease, when treated in the usual manner, is from one and a half to three and a half months; even by prussic acid, or the application of nitrate of silver, the average given is from two to three weeks. It is stated by Dr. Gibb that, with the use of nitric acid, the average duration was only six or seven days. Several physicians who have used this remedy, however, do not find such favorable results from its use."

ART. 41.—*Two cases of Thoracentesis.* By M. ARAN.

(*L'Union Médicale*, Nos. 147, 148; and *Med.-Chir. Rev.*, April, 1857.)

These cases occurred at the Hôpital St. Antoine, under the care of M. Aran. The patients were men respectively of the ages of twenty-six and thirty-nine years. In the first, the pleurisy affected the left side, and the effusion was so considerable as to force the heart above an inch (three centim.) beyond the right margin of the sternum; in the second, the right side was affected, and the heart was pushed over to the left, so that the heart-dulness only commenced at the left edge of the sternum. The dislocation of the heart forms one of the chief sources of the danger accompanying pleuritic effusions, and may therefore be regarded as an argument in favour of paracentesis. Paracentesis was accomplished in the former case a few days after the patient's admission to the hospital, when he had been about four weeks ill. One thousand two hundred grammes (above twenty-six ounces) were evacuated; the immediate relief was great, and an entire recovery followed, so that he was discharged cured three weeks after. In the second case, the operation was performed four weeks after the commencement of the illness, and a week after the patient's admission. The amount of fluid evacuated was 2500 grammes (about fifty-five ounces). A fortnight after, the patient is reported to be doing perfectly well, being retained in the hospital simply as a matter of precaution.

In neither of the cases was there much fever on the day on which the puncture was made; the pulse was eighty-four in the first, sixty in the second patient; the former presented twenty-four, the latter twenty, respirations in the minute. They had some appetite, and probably neither patient considered himself dangerously ill; still, the extent of the effusion left no doubt that their malady was a very serious one. The recovery was the most rapid and complete, as re-

gards the expansion of the compressed lung, in the second case—still, in both the lung that had been affected, was restored nearly to the normal condition. The first at his discharge is reported to have retained only a slight dulness, with a somewhat feeble respiratory murmur on the left side; while the second, eight days after the operation, presented nothing but a slight diminution of the respiratory murmur at a circumscribed spot at the lower and outer part of the affected side.

ART. 42—Remarks on Paracentesis Thoracis, based on an examination of 132 reported cases. By Dr. JOHN A. BRADY, of Brooklyn, N.Y.

(*New York Journal of Medicine*, March, 1856.)

In this paper, Dr. Brady reports, in considerable detail, a case of pleuritic effusion, in a man aged 25, occurring first upon the right, and subsequently upon the left side. He was treated with marked success by repeated blisters, slight ptyalism, followed by acetate of potash, and iodide of potassium, &c. After several months he began to decline in health without any perceptible cause, and in spite of medication. He died from the exhaustion of delirium following an overdose of laudanum, which he had incautiously swallowed. On examination, the left lung was found to be healthy; the right was firmly united to the walls of the chest by old and very dense bands. The upper portion was healthy and permeable to air; but the lower portion was condensed and perfectly solid. No tubercles were found in either lung, and the cavity of the thorax was free from fluid.

In the course of his reflections on the above case, Dr. Brady had been led seriously to regret that the operation of paracentesis was not performed. For, notwithstanding the treatment instituted caused the absorption of the fluid, the process was so tedious and slow, and the pressure of the fluid continued so long, as to impair seriously the functions of the lung, so that, even had he lived, it was doubtful whether the lung would ever have attained its former size and usefulness. His attention having been directed in this manner to the subject of paracentesis thoracis, he has been led to collect together all the cases of empyema and hydrothorax reported in the British and American Journals, in which the operation has been performed. And the remainder of his paper is devoted to an analysis of the 132 cases collected, together with a brief examination of some of the points connected with the operation.

Of the 132 cases in which the operation was performed, it resulted in complete recovery in seventy-nine cases; fourteen were relieved; thirty-seven died; in one the result was unknown, and in one no effect whatever was produced. Of those who died eleven were carried off by phthisis; four were sinking, and beyond the probability of recovery when the operation was performed; one died from the effects of an opiate; in one case the fluid could not be reached; and in one a doubt existed in the mind of the medical attendant whether active treatment after the operation might not have saved his patient's life. This leaves only nineteen remaining whose deaths could by any possi-

bility be attributed to the operation. It appears also that in the majority of the cases reported, the operation was not resorted to until the hope of relief from any other source had failed, when the lung had become more or less altered in structure, owing to the pressure of the fluid, and the patient's strength exhausted by the continuance of a painful and harassing disease. In all of the cases, with one exception, the removal of the fluid afforded marked, and in many cases entire, relief. There is but a single exception. In this case two operations were performed; the first of which afforded relief, but the second was attended by no such beneficial result.

Of those who were operated upon, the fluid had existed—

Less than 1 month in 15 cases.				Less than 7 months in 3 cases.			
"	2	"	19	"	"	8	"
"	3	"	12	"	"	9	"
"	4	"	8	"	"	2 years in 2	"
"	5	"	4	"	"	3	"
"	6	"	3	"	"	7	"
							1

And in 55 cases the duration was unknown.

The effusion was pus	in 52 cases, of whom	Recovered.	Relieved.	Died.
" serum	59 "	37	3	13
" sero-purulent	8 "	5	12	18
" unknown	13 "	10	0	3

Of those who died, the effusion had existed within 1 month in 2

"	"	"	"	2	"	1
"	"	"	"	3	"	3
"	"	"	"	4	"	3
"	"	"	"	5	"	2
"	"	"	"	6	"	1
"	"	"	"	7	"	1
"	"	"	"	9	"	2
"	"	"	"	2 years in 2		
"	"	"	a long time		"	1
"	"	"	unknown		"	19

The largest amount evacuated during the whole treatment was of pus, $22\frac{1}{2}$ lbs.; serum, 15 pts.: and the smallest, pus, 5 oz.; serum, $1\frac{1}{2}$ oz.

The operation of tapping the chest for the removal of fluid collected therein, has been since the days of Hippocrates; and although one would think a sufficient length of time had elapsed since its practice began, for the profession to settle the question as to its usefulness and safety, still there is no operation within the province of the surgeon, concerning the practice of which there has been more controversy and difference of opinion than the one under consideration. Of late years the valuable papers of M. Troussseau, of France, Drs. Hughes, Cock, and Hamilton Roe, of Great Britain; and Drs. Bowditch, Wyman, and Pepper, of America, have done much towards convincing the medical profession of its practicability and safety in all cases where fluid has been thrown out in the thoracic cavity, the result of pleuritic inflammation. A careful examination of the result of their labours, proves that, in their hands at least, it has not been attended by any of

those unpleasant and dangerous consequences, that had almost universally been attributed to it.

The objections urged against the operation apply almost entirely to it as performed in accordance with the method laid down in most works on surgery; but, as practised by surgeons of the present day, the operation is perfectly easy, safe, and practicable. The principal objection brought against the operation is, that by it air is admitted to the pleural cavity, and that its presence there compresses the lung, causes a decomposition of the fluid, thereby lessening the patient's chances of recovery; and that it also increases the inflammatory action already going on. These objections, if true, would divest the operation of much of its usefulness; but, although the admission of air cannot always be prevented, the quantity is so small when the operation is properly performed, as to cause no trouble whatever; on the contrary, it has been found to assist in the removal of the fluid—is not sufficient to compress the lung, and is readily absorbed in the course of a few hours. Dr. Bowditch, in speaking of this objection (*Am. Jour. Med. Sciences*, 1852), says, "The admission of a small quantity of air does not necessarily cause trouble, unless it be frequently repeated, as in cases of pneumothorax and of puncture of the thorax according to the old operation." Dr. Fergusson says, "I have never seen any evil result arise directly from the admission of a small quantity of air;" and Dr. Hamilton Roe, in speaking of this objection, uses the following language, "In every case which has fallen under my observation, a considerable quantity of air entered into the pleura during the operation, and in some of them so freely as to excite all the physical signs of pneumothorax, but in none of them did it produce any permanently evil effect, a few hours being sufficient for its spontaneous removal; in one instance only did it cause even temporary inconvenience."

Another objector, Dr. Hope, says, "The operation is unnecessary, and that all cases in which this operation has been instrumental in producing a cure, the like result could have been attained without its aid;" and in proof thereof he cites thirty-five cases, cured by the use of mercury. This assertion experience proves to be untrue. If the fluid effused be simply serum, and the patient's constitution be not already broken down, and the amount effused be not too large, then if a judicious treatment be instituted a reasonable hope may be indulged that the fluid will be removed by absorption. But if, on the contrary, the amount of fluid thrown out is so large as to interfere materially with respiration, or it has accumulated so rapidly as to prevent absorption, then the operation must be resorted to.

When should the operation be performed? Most writers are of the opinion that the fluid should be removed at an early period of the disease: Drs. Hamilton Roe and Bowditch say it should not be allowed to remain longer than three weeks. When the fluid effused in the pleural cavity is serum alone, unless the quantity is too large, its absorption and consequent removal can be brought about, in a majority of cases, by the use of proper remedial agents. But if the quantity be so large as to threaten suffocation, or if the pleural sac is much distended by a rapid effusion, then the operation should be per-

formed. It should be borne in mind that, if the fluid is allowed to remain too long, phthisis is almost certain to supervene; for that reason, the operation should not be too long delayed. If the matter be purulent, valuable time should not be lost in waiting until it is broken down and then absorbed, or until it establishes an opening for itself, but the operation should be performed immediately. Of course the above remarks apply to cases of uncomplicated hydrothorax and empyema. But even if phthisis be present, the removal of the fluid will, in many cases, afford considerable relief, and so lengthen the life of the patient. If possible all inflammatory action should be subdued before the operation is performed.

Before the operation of paracentesis is performed, an exploration should be made, in order to ascertain with certainty the character of the effusion. In regard to the exact locality at which the puncture should be made, discrepancy of opinion exists. Most operators, however, prefer the fifth intercostal space, about midway between the sternum and spine, or just posterior to the digitations of the serratus magnus. When the fluid points externally, the puncture should be made with a lancet in the most prominent part of the swelling. Several instruments have been invented for puncturing the chest, but a small-sized trocar appears to answer the purpose as well, and to be as safe as any other instrument; care should be taken to have its point perfectly sharp. Some operators make an incision in the integument first, but this does not appear to be absolutely necessary; a difference of opinion exists among operators as to whether the whole or only a portion of the fluid should be removed at once. This matter, however, must be left entirely to the judgment of the operator. If the effusion be recent—when the lung has not been compressed but a short time, no harm can result from allowing the fluid to be evacuated at once. If dyspnoea or syncope supervene, or air begins to enter the cavity, then the discharge should be stopped at once. In a majority of the cases reported, in which the operation was successful, the return to health was gradual and progressive.

It would, therefore, appear that the operation is perfectly easy, safe, and practicable, and that, although it will not in all cases cure the disease, it never fails to remove many of the most distressing symptoms.

ART. 43.—*On the value of the Red Line of the Gum in the Diagnosis of Phthisis.* By Dr. SAUNDERS, and Dr. J. C. DRAPER.

(*New York Journal of Medicine*, Jan., 1857.)

Dr. Theophilus Thompson, in his work on pulmonary consumption, in speaking of this red line, says, "Considerable attention to this inquiry has impressed me with the conviction of the frequent existence, in consumptive subjects, of a mark at the reflected edge of the gums, usually deeper in colour than the adjoining surface, and producing a festooned appearance, by the accuracy with which it corresponds with the curve of the gingival border; this mark is in some patients a mere streak, in others, a margin, sometimes more than a line in breadth. In

the most decided cases, this margin is of a vermillion tint, inclining to lake. As a general rule, the line is most distinct round the incisor teeth, but it is frequently apparent also round the molars. Dr. Saunders and Dr. J. C. Draper are not without a suspicion that the form of the mouth influences the direction in which the margin is most obvious; patients with a long upper lip applied closely over the jaw, often presenting around the incisors either no line, or one only slightly marked, while around the canine teeth this margin is well delineated. In toothless individuals, when the gums smoothly cover the sockets, no mark is observable, but when imperfect stumps remaining prevent the smooth adjustment of the surface, the streak is found."

The object of the following statistics is to test the utility of the red line as an element in the diagnosis of phthisis. The 451 cases from which they were taken, are all of the patients at present under treatment in the wards of Bellevue Hospital. Table No. I is intended to show the frequency of its occurrence, without regard to the disease. The terms used at the head of table are *no line*, *slight*, *good*, and *excellent*. The first is used when no trace of a line exists; *slight* is used when the line is faintly marked on three or four gums; *good* is used when the line is pretty well marked on the gums of the upper jaw; *excellent* is used when the line is full, plain, and very marked on all of the gums.

The whole number of cases examined (451), in whom the red line existed, is as follows:

TABLE No. I.

No. of cases.	No line.	Slight.	Good.	Excellent.
451	106	96	175	74

Table No. II comprises 116 cases of phthisis, in all its stages. Under the head of stages, the numbers 1, 2, 3, are intended to denote the divisions commonly used in describing this disease.

TABLE No. II.

Stages.	No. of cases.	No line.	Slight.	Good.	Excellent.
1	26	7	3	9	7
2	21	4	5	8	4
3	69	17	17	21	14
Total	116	28	25	38	25

From this we find one-fourth of the cases have no line, another fourth have it very slightly developed, leaving one-half in which it is plainly marked. It may also be observed that the stage in which the disease exists does not have any material influence on the line. Table No. III comprises all varieties of disease except phthisis.

TABLE No. III.

No. of cases.	No line.	Slight.	Good.	Excellent.
335	78	71	137	49

In this table we find more than three-quarters of the cases have the line more or less developed, though only a little more than one-half have it well shown. This table would rather leave the impression, that this line occurs in most chronic diseases, as stated by Drs. Thompson and Frederick, oftener than in any other condition, though the following table conflicts with that opinion. Table No. IV comprises 37 cases of pregnant and recently-delivered women, in whom no pathological lesion existed.

TABLE No. IV.

No. of cases.	No line.	Slight.	Good.	Excellent.
37	5	6	11	15

In the 37 cases we see the line existing in 32, though only slightly in 6. The results of this table deserve some consideration, as it has been stated by most authors who have investigated the subject, that the line is peculiar to chronic blood-diseases; this view, however, is not sustained by the above table, as no disease existed in any of the 37. It should be remarked, also, that the line occurs more frequently and is better marked in the pregnant woman than in any cases examined. The number of cases at our command will not justify a conclusion; yet they may serve as a basis of further investigation. The question might be asked—May not this line be considered in connection with the other symptoms of pregnancy?

Table No. V comprises 32 cases of uterine disease, and is intended to show the difference between the physiological and pathological conditions of the uterus.

TABLE No. V.

No. of cases.	No line.	Slight.	Good.	Excellent.
32	14	7	10	1

In the 32 cases examined, there were nearly one-half where the line did not exist, and only one-third in whom it was pretty well marked. It may be observed that there is considerable difference between tables No. IV and V, the line occurring nearly in an increased ratio in the two conditions of the uterus, being only very well marked in a single instance when the organ is diseased.

Table No. VI is intended to demonstrate the influence of sex on the line.

TABLE No. VI.

No. of cases.	No line.	Slight.	Good.	Excellent.
Female.....234	57	55	80	42
Male.....217	49	41	95	32

From this we see no marked difference in the frequency of its recurrence in the different sexes.

Table No. VII. shows the influence of age.

TABLE No. VII.

Age.	No. of cases.	No. line.	Slight.	Good.	Excellent.
below 20	48	21	9	10	8
20 to 30	185	38	37	80	30
30 to 60	199	42	44	78	35
above 60	19	5	6	7	1
Total	451	106	96	175	74

Age exerts no influence on the occurrence of the line.

The following general conclusions may be drawn from the above statistics :

1. The red line, though it occurs frequently in phthisis and chronic blood-diseases, is by no means characteristic of them.
2. In pregnant and recently delivered women, the line occurs more frequently and better marked than in any cases examined, and may, perhaps, deserve consideration in connection with that condition.
3. That age or sex exercise no influence on the existence of the line.

ART. 44.—*Of the nature of Phthisis and particularly of the Pre-tubercular stage.* By Dr. E. SMITH.

(*Lancet*, Nov. 1, 1856.)

After pointing out the advantages of special hospitals in the study of diseases, the object of the author is to show—1st, That the treatment of phthisis, in order to be commonly successful, must be in the pre-tubercular stage; 2d, That there is a pre-tubercular stage which is capable of easy demonstration, and in which treatment would commonly prevent the deposition of tubercle; and 3d, That the nature of phthisis essentially consists in a lessened inspiratory action of the air-cells of the lung. He admits that phthisis is induced by a multitude of causes, but he affirms that the tendency of all these is towards exhaustion, and that they, although many, have one common mode of action in inducing the disease. He criticises minutely the prevalent opinion, that phthisis is a disease of the blood, and proves that whatever may be the state of the blood in the disease, there is no universal condition of it which attends the origin of the disease, or which is really causative of it. The state of the system, which is one of the causes of phthisis, is one of both solids and fluids, and is to be expressed rather by a general predisposition to the disease than by the specific state of a part of the system—viz., the blood, in which the elements of the disease had never been found, or had been directly transmitted to another system. He also proves from his own investigation, that the function of alimentation was not at fault as causative of phthisis, by showing that the quantity of food taken in the early stage is equal to that in health; and by reference to the faeces, solids in the urine, biliary and cuticular excretions, he showed that there was then no larger excretory waste than occurs in health. The lessened action of the air-cells he proved from the lessened vital capacity,

feeble respiratory power, and lessened mobility in the early stage of the disease, the consequent lessened vesicular murmur, increased harshness of respiration and flattening of the chest, with or without slight dulness, indicative of atrophy of the lung. He also proved that the signs of lessened vesicular action are found in all those cases, which, by common consent, are said to be prone to phthisis, and mentions instances in his own practice at the hospital, in which the vital capacity was reduced to the extent of two-thirds, or half of the healthy quantity, without there being any evidence of the deposit of solid matter in the lung. This stage of lessened vesicular inspiratory action, without any evidence of tubercular deposition, he designated as the first stage of the disease, one in which every hope of success may be entertained from suitable treatment. The second stage was that of tubercular deposition, and the third, that of destruction of tissue, whether to the extent of softening only, or to the further degree of the formation of a cavity. He then proceeds to show the connection between the act of inspiration and the circulation through the lungs, and the importance of maintaining a balance between the systematic and pulmonic circulations, and explains the especial liability of the apex of the lung to tubercle, by a consideration of the mode of action of the lung, whereby the cells at the apex must at all times be less perfectly distended than those at the base, and, consequently, have less circulation and vital influence. He discards the notion of the deposition of tubercle in the lung from the blood, and having referred to Dr. W. Addison's theory of the formation of tubercle on the lung from degenerated epithelium, shows how readily the air-cell is rendered fit to be a receptacle of such morbid products when its action and vital influence are lessened or lost. The extreme liability of the lungs to the deposition was not from any question relating to the blood, but from a consideration of the peculiar action of extrusion and retraction of the air-cell, (as he had demonstrated,) and from the immense number of such filled receptacles as the air-cells of the lungs offered. He believes that phthisis and scrofula are distinct diseases, and that whilst they may be sometimes causative of each other, their co-ordinate occurrence was chiefly accidental. Dr. Smith also explains the occurrence of haemoptysis before the deposition of tubercle, upon the principles now laid down, and points out the impropriety of any attempt to arrest it directly, and also of interfering with that degree of increased frequency of respiration and pulsation which Nature sets up as a prophylactic measure when the amount of circulation in the lungs is so greatly lessened as it is in all stages of phthisis.

ART. 45.—*On the Treatment for the arrest of Phthisis.*

By DR. EDW. SMITH, Assistant Physician to the Hospital for Consumption at Brompton.

(*British Med. Journal*, Jan. 10 and Feb. 7, 1857.)

After having investigated the subject in a very careful manner, Dr. Smith has arrived at the conclusion that alimentation is *not* at fault, since the quantity of food taken is equal to that in health, since

digestion is good, and the waste of material not greater than in health, and that the respiration is at fault. The theory propounded is that the disease essentially consists in the lessened action of the air-vesicles, and that it is commonly due to anterior conditions of the general system of a depressing nature. These general conditions are in part, probably, certain atonic states of the nerves of organic life, and more particularly of the sets of those nerves and of the communicating branches of the cerebro-spinal system which preside over the involuntary and also the voluntary action of the lungs.

The treatment recommended may be summed up in the following sentence : Forced inspirations, out-of-door exercise, good and frequent food, sleep, early rising and retiring to rest, cool moist air, cold washing, moderate excitement of the mind, and medicinal tonics. There is also another, which may rather be considered a prophylactic of phthisis, and which, in his opinion, is of far greater value than the community at the present day admit ; viz., athletic exercises, and country sports and games.

The means upon which Dr. Smith lays most stress is that of "mechanical distension of the air-cells to a degree beyond that which takes place perhaps in health, but certainly in the state of enfeebled respiration in which we find the patient. This may be effected by bodily exertion, which tends directly to increase the frequency and the depth of inspiration ; and, as this mode is so consonant with our knowledge of the laws whereby health is maintained, no objection will be urged to it. But to my mind there is the objection that, in phthisis, whether before the manifest deposition of tubercle, or afterwards in the early stages of the disease, the pulse is frequent proportionately to the respiration ; so that the respiration is to the pulse, not as 1 to 4, but as 1 to 5, 6, or 8. I have paid much attention to this matter in a long inquiry which I have prosecuted at this hospital, and am assured that, in the early stage of phthisis, the proportion of the two functions is commonly reduced. Now the pulsation is at least frequent enough, and it is not uncommonly too frequent ; and hence we do not need to apply any remedies which may increase the rapidity of the blood-current. But exercise of body, and even the sitting and standing postures, do increase the blood-motion ; and, although they at the same time increase the rapidity of breathing, they do it in a less ratio than the former. Whilst, therefore, bodily exertion may be useful, and is indeed necessary in giving more rapidity and depth to the inspiratory effort, it is not an unmixed good. But we must not forget that the quiet motion of the body, which is now said to be bodily exercise, does not excite the depth of inspiration sufficiently for our purpose ; and it is only when it becomes so great as is needful in athletic exercises that the desired result is attained. Hence the directions which we commonly give are of little avail, although the tendency of them is right. Yet, with the violent bodily exertion referred to, the rapidity of the blood-current is greatly increased, and at the same time there is a proportionate diminution in the deposition of material in the tissues, and in the due action of the air upon the blood in the lungs. Thus lessened growth of body occurs, with, at the same time, less vigour of vital processes, and a waste of material through

the eliminating organs. This must result when the body is in health ; but then the temporary evil is either easily borne, or is compensated by good ; but when, in phthisis, at least in the tubercular stages, we find a tendency to a constant rapidity of current, and consequently to lessened growth of tissues, we must attach a greater degree of importance to it. The effect of much exercise in phthisis is, therefore, evil certainly, although, at the same time, it may be, but less certainly, good.

" Now, is it possible to meet this difficulty, and to find a mode whereby the depth of the inspiratory act shall be increased, and yet the rapidity of the blood-current not sensibly promoted ? Perhaps not, in the fullest sense of the inquiry ; but I think it may in a limited yet important sense. I refer to voluntary attempts at deep inspiration. This cannot be continually effected, since volition cannot be at all times directed to that end ; and if it could, the very act would fatigue the system ; but it may be for a limited period at a time : and the very instruction thus given, if properly explained, will induce the patient to guard against that shallow respiration which is so constant a feature of the complaint. Thus the mind would be directed to an object of value ; the spirits would be excited by hope ; and the evils attending a listless and enfeebled habit of respiration would be in some degree guarded against. This object is doubtless attempted when the patient is directed to use calisthenic exercises, as the use of the dumb-bells ; and there cannot be a doubt that the vigorous employment of such means may excite inspiration. But it is one thing to throw the arms about, and another to make that conducive to the deep inspiration. We must admit that, whilst the object is good, the practice has commonly defeated the object, and that perhaps in a great degree from the want of knowledge on the part of the patient to enable him to make his efforts efficient. Moreover, I am not clear but that sometimes, and, perhaps, frequently, the effort now referred to lessens the frequency, and without increasing the depth, of inspiration ; for nothing is more common than for us to hold our breath when making any unusual voluntary exertion.

" I think that nothing less than direct voluntary attempts to breathe deeply would effect the object which we have in view ; and even this is certain to fail unless it be carefully effected. The seat of mischief is chiefly in the upper lobe and the apex of that lobe. Now, if we take an ordinary inspiration, we find that the expansion of the chest is disproportionately greater in the lower than in the upper half of the chest ; and when the respiration is unusually feeble, this disproportion is so much the greater that scarcely any breath-motion may be detected under the clavicles. But, on deep inspiration, the first sensation of fulness is at the base of the lungs, and that sensation gradually rises as the depth of the effort increases, until, at the very end of the deepest inspiration, the sensation is felt at the apex. This may be readily proved by any one who will take the trouble to try it carefully upon himself. Now, in this very fact lies the difficulty of the matter. It is almost impossible to persuade a phthisical patient to take an inspiration of the depth referred to ; for his habitual shallowness of effort induces him to consider *that* a deep inspiration in which the lung is by no means fully distended. It is my habit to show the mode and the required depth

by my own inspiration, and to inform them that it is only the *very end* of the deep inspiration which is of service to them. Our aim should therefore be to have the deepest inspiration performed as often as we think right, with a view of thus preventing the process of closure, which is, in my belief, the mode of action of the disease. If there were not a serious objection to the introduction of any instrument as a part of medical treatment, I should advise the employment of a spirometer, which would measure the amount of air inspired; and this, whilst engaging the patient's attention, would enable him to regulate his voluntary efforts, and to ascertain the result. I have several in use; and, after a repeated employment of them in determining the amount of vital capacity at various periods, the patients have expressed much gratification in the assurance that they felt much better from this forcible attempt to inspire deeply.

"I fear that this may be thought too mechanical a plan of treatment; but I beg to observe, that the very existence of the air-cells themselves is in part due to the mechanical introduction of air within them. There are no developed air-cells in uterine existence; and even during the first early period of extra-uterine life they are so slightly developed as to be said not to exist at all. When the air is first admitted into the bronchi, there are no true cells such as may be found in later life; and the period of their development is that of breathing, and their maturity is due to the continuance of the effort. Thus the development of the air-cells may be said to be due to the mechanical agency of inspiration. Moreover, we know how greatly the depth of inspiration is due to volition, to the thousand necessary occurrences of daily life, and to the effect of other diseases; and we admit at once that the effort of inspiration varies under these several conditions. Hence it is not unphysiological to direct an effort to make the act of inspiration perfect (as we daily do to render the digestion of food perfect), and to keep in a due state of distension, or to increase the existing degree of distension, of the air-cells of the lung.

"I do not know if any difficulty would present itself to any mind in reference to the limitation of the lessened action, or of collapse to isolated small portions of the lungs, as is believed to exist on this theory. Perhaps it is more easy to understand how the whole organ may be influenced, rather than a part of it; but, in addition to the special disposition which must exist in the upper lobe, and especially of the apex, from the direction and depth of the air-current in inspiration, I may refer to the fact that the atelectasis of the newly born is always partial, and may be even limited to one or to several isolated and separated lobules. Hence it may be said to act only on individual cells, and is a fair illustration of that which is believed to exist in the earliest stage of phthisis. The one is not more difficult of belief than the other.

"To show that voluntary inspiration not only may, but has been defended on physiological grounds, I would refer to a remark made by Lehmann, vol. iii, p. 382. In reference to excretion of carbonic acid largely, he says: 'We may perhaps aid a tuberculous patient quite as much by recommending him to respire warm moist air, as if we prescribed lichen or cod-liver oil. Instead of tormenting an em-

physematous patient suffering from congestion, and of hemorrhoidal tendencies, with aperients and saline mineral waters, we might relieve him far more effectually by recommending him to practise artificial augmentation or expansion of the chest in respiration (filling the lungs several times in the course of an hour), or to take exercise suited to produce this result; while we should forbid the use of spirituous drinks, and not prescribe tinctures, which might hinder the necessary excretion of carbonic acid.'

"In advising this course, I do not for a moment refer to any increased chemical influence which the increased volume of air may or may not have upon the blood, neither do I make use of the theory that, by this means, we effect pressure upon tubercle, and promote its absorption; I only claim for it, that it will tend to prevent the decay and the closure of the cells from inaction, and thus prevent the further deposition of tubercle in cells which are not already rendered useless by or with it. But it is fair to infer that there must be by this means a more complete renewal of the residual air, and thereby a further benefit be obtained. It may, however, be proper for me to refer to the experiments of Vierordt in reference to the influence of voluntary respiration in promoting the evolution of carbonic acid. He ascertained that the more frequent the respiration, the less per centage of carbonic acid was evolved; but, as the total quantity of air taken into the lungs was increased by an increased number of inspirations of an uniform depth, the total quantity of carbonic acid evolved in a given time was greater than with fewer inspirations. Thus—

"With 12 inspirations per minute $13\frac{1}{2}$ cubic inches were evolved.

„ 24	„ „	24·2	„ „	„
„ 48	„ „	42·5	„ „	„

And, in reference to variation of depth, the frequency being constant, he proved that, with an inspiration twice as deep, the quantity of gas evolved was the same as when the inspirations were three times as frequent, the depth then being constant. Thus the objection which is so commonly raised to voluntary attempts to respire, viz., that it does not increase the vital force, is incorrect; for, in practice, we are not concerned with the percentage evolution of carbonic acid, but with the total evolution in a given period.

"The reason for the large increase in the amount evolved by an inspiration simply twice as deep as an ordinary one, is, that the air in the air-cells is richer in carbonic acid than that in the minute bronchial tubes, in the proportion of 5 to 3; and hence, as a deeper inspiration causes more movement in and exchange of the residual air, the air-cells must lose a larger quantity of the products of respiration. Hence the remedial influence of deep voluntary inspiration is both mechanical and chemical.

"The effort now recommended may weary the patient; and hence I have thought it enough if the patient thus deeply, slowly, and gently respire for five minutes at a time, and on three or four occasions in the day, at the same time explaining the object, and recommending him to avoid shallow breathing in his ordinary respiration. Thus fatigue is avoided, and yet probably the effect is obtained.

"It is, however, essential to the success of this plan that it should be fairly carried out: and if, from other causes, no success results, I do not know of any mischief which could possibly arise from this. Success will of course be dependent upon many causes, and hence neither this nor any other single plan of treatment can be exclusively relied upon. It has, however, this merit, that it is of almost universal application, has evidently a tendency to improve the health, and cannot do harm. When there is no tubercle deposited, I am of opinion that the plan, if fairly carried out, can hardly be inefficacious; but, in the last stage of phthisis, the possibility of arresting the disease by any means is very small."

ART. 46.—*On the diagnostic value of the symptoms indicative of Pulmonary Cavities.* By Dr. N. FRIEDREICH.

(*Verhadnl. der Phys. Méd. G. in Würzberg*, Seib. Bd., 1856; and *Med.-Chir. Rev.*, April, 1857.)

The cracked-pot sound, the tympanitic percussion sound, the amphoric and metallic respiratory sounds, are in this paper examined in relation to the diagnosis of pulmonary cavities. We recently drew attention to Professor Bennett's observations on the occurrence of the cracked-pot sound in various conditions unconnected with cavities. Dr. Cockle has also shown that it may occur in cases of simple bronchitis. Dr. Friedreich gives three cases of pleurisy in which this sound was met with. In the first (a man, aged twenty-two) it occurred in the left infra-clavicular region, at the time when the effusion on the same side was receding, and it lasted until its complete absorption. In the second (a man, aged twenty-two), the sound occurred from the commencement of the affection, and whether the nose and mouth were open or closed, in the left infra-clavicular space, as far as the third rib, to which the pleuritic effusion reached. It disappeared before any change in the exudation was perceived. In the third case (a man, aged twenty-three), the *bruit de pot-fêlé* was produced, the mouth and nose being open, at the upper left side, down to the third rib, at which point the effusion commenced. The patient was still under observation when the paper was written. With regard to the occurrence of the sound in healthy subjects, Dr. Friedreich has failed to discover it in the adult, but on examining forty-six children under fourteen years of age, he met with it twenty-six times—fourteen times audible on both sides anteriorly, but only in five equally loud—in the other cases, generally louder on the left than the right side, and only twice louder on the right than the left. In explaining the production of the cracked-pot sound, Dr. Friedreich opposes the theory that it is due to air being forcibly expelled through the glottis, because, on applying the stethoscope to the larynx, while another person produces the sound, no indication of its formation at the glottis is obtained. In bronchitis and early infancy he believes the production of the sound to be due to the compression of the smaller bronchi during the act of percussion. He adopts Skoda's theory of its production in phthisis, while in pleurisy he attributes it to compression of the pulmo-

nary tissue by the exudation, and the forcible expulsion through the smaller bronchi of the air contained in them, when percussion is employed.

ART. 47.—*A case of Peri-tracheal Deposit with secondary disease of the Lungs.* By Dr. BRINTON, Physician to the Royal Free Hospital.

(*Lancet*, Feb. 28, 1857.)

The following case possesses considerable interest, both from its bearing upon the symptomatology of the respiratory organs, and from its connection with those phenomena of the sympathetic system of nerves respecting which both pathology and physiology have at present much to learn.

CASE.—S. W—, an unmarried woman, æt. 22, had suffered, during about three months, from slight cough, attended with little or no expectoration, but with some emaciation, and with amenorrhœa. Her family was free from phthisical taint. Her habits were temperate; her occupation that of a laundress; her circumstances latterly so straitened as to reduce her food below its customary standard of quantity and quality.

About a month before her admission into the Royal Free Hospital, she was suddenly seized with the severe symptoms from which she dated the present illness. Her cough became violent, and was accompanied with pain in the region of the upper half of the sternum, as well as with expectoration. She lost all appetite; her strength was prostrated; and gradually becoming worse, she applied and was admitted an in-patient on the 25th of January.

At this time her aspect was that of a person suffering from some acute pulmonary disease. Her face, pale and somewhat emaciated, had a haggard, anxious look, and her nostrils worked almost convulsively with each inspiration. Her lips were of a blue tinge, suggestive of partial asphyxia. Her skin, though hot and dry over the trunk, was colder than natural at the extremities. Her pulse was about 120 per minute; her breathing about 36; and both inspiration and expiration (but especially the latter act) gave rise to a mucous rattle, audible at some distance from her bed, and precisely like what is vulgarly known as "the deadrattle" that immediately precedes the final agony. The voice was feeble but distinct. Her cough was frequent, and somewhat paroxysmal in character; but though loose enough to suggest an easy expectoration, this expulsive act was rarely effectual, being repeated several times before it hawked up a dull-yellow, opaque, puriform, and somewhat nummular sputum.

On examining the chest, there seemed no deficiency of movement on either side, although a forced inspiration decidedly bulged the left side a trifle more than the right. The vocal thrill was equal on both sides. The vocal resonance was somewhat more distinct on the right, especially in the subclavian region, where there was slight dulness to percussion, and where the inspiration was rather louder, harsher, and more tubular than elsewhere, and the prolonged expiratory murmur somewhat similarly affected.

It was not, however, without some difficulty that these sounds could be verified. All of them were veiled and nearly lost in the mucous rattle before mentioned, which was heard over the whole chest as a large loud sound of low tone, with irregular remissions of intensity, but scarcely any real interruptions or intermissions. It was loudest during expiration. It never approached to a liquid or bubbling sound. It was utterly unlike the harsh

snoring sound sometimes produced by aneurismal interference with the larynx. Its distinctness increased as it was traced towards the manubrium.

Besides this sound, a little mucous crepitation occupied the more depending parts of both lungs—namely, the lower lobes posteriorly.

The heart, rather large and weak, appeared to be otherwise quite healthy, as did also the larger vessels. The integuments, including those of the face, were flabby and almost puffy, but there was no anasarca. The urine was scanty and high coloured, but devoid of albumen. The bowels rather constipated.

There could be little doubt that the patient was almost moribund on her admission, and past all hope of that reaction which the comforts and the treatment of an hospital sometimes bring about—even in cases where, as in this instance, the desperate state present seems due to neglect or privation almost as much as to disease.

The body, examined about sixteen hours after death, was but imperfectly rigid. On careful dissection, it exhibited the following appearances :

The heart was relaxed and flabby; its left ventricle uncontracted; its right ventricle distended with a tolerably large quantity of dark blood. Its valves were healthy, as were also the large vessels arising from it.

The right lung had not collapsed over about one-third of its anterior surface, including its middle and most of its upper lobe. All this portion of it had a pale-red or flesh-coloured hue defined by an abrupt, wavy margin from the neighbouring collapsed and healthy-looking pulmonary tissue. A similar appearance, of less distinctness, engaged a very small portion of the anterior surface of the left lung, near its root.

The larynx, trachea, oesophagus, and lungs were next removed in a mass, and subjected to further examination. The diseased portions of lung were nowhere absolutely devoid of crepitation when compressed. But in the amount of this crepitation they contrasted with the somewhat dark and engorged healthy lung in their neighbourhood just as remarkably as they did in respect of colour. Indeed, all the portions in which this colour and consistence were best marked had a specific gravity enabling them to sink readily in spring-water. Their section allowed the expression of a whitish, albuminous-looking juice from the pulmonary lobules, and of a purulent fluid from the cat orifices of the smaller bronchi. The characters of this pus were identical with those of the matter expectorated during life.

On dissecting carefully around the bifurcation of the trachea, it was found that the anterior aspect of the fork of this tube was occupied by a dense, dull, yellowish-white mass, about half an inch in thickness, of extremely tough and fibrous consistence, and about one inch deep in the vertical direction. The right side of this mass extended along the root of the lung in front of the right bronchus, where it became fused into the fibrous capsule of a calcified bronchial gland, that seemed to bound it in this direction. To the left side it spread, as a layer of rapidly-decreasing thickness, for a short distance over the root of the left lung. Upwards it reached, on the right side, a little way along the trachea, and was loosely connected with an oblong bronchial gland (also calcified in its centre) here: towards the left side, it crossed obliquely over the trachea, to become moulded, with a great and sudden increase in its thickness (here three quarters of an inch,) upon the left third of the tracheal circumference, for about an inch and a half, just avoiding the oesophagus and its attachment to the respiratory tube. The areolar tissue attaching the aorta and great vessels to this mass was almost everywhere reduced to a scanty (and therefore rather tense) network; but it was nowhere so deficient as to bring the mass into immediate contact with them, far less to imply any fusion

with their coats. But at the left side and lower part of the trachea, the mass was completely agglutinated to this tube, resting upon it by a firm immovable union, which evidently depended on the complete involvement in the disease of the normal areolar tissue; so that a section showed the cartilages of the trachea immediately bounded by the new substance. Just at this line of junction the mass was in one place softened, and apparently detached from the subjacent cartilage. The exact degree in which the calibre of the trachea had been diminished by the pressure of this adventitious deposit, it was difficult to determine after laying open the tube. But there could be no doubt that a considerable effect of this kind had obtained during life. Indeed, even after removing the lungs from the body, and thus relieving the parts of that surplus pressure which the pulmonary deposit must probably have brought about, the influence of the mass on the trachea was well shown by its separating the adjacent rings of the adherent trachea to a distance from each other amounting to at least twice or thrice that elsewhere intervening between the neighbouring cartilages. This local elongation of the trachea must obviously have sufficed to effect a considerable diminution of its calibre, such as would impart a much greater efficacy to the further pressure or flattening of the tube by the deposit which occupied its circumference. The inferior laryngeal nerve of the left side was stretched and flattened over the deposit, and was also thickened and redder than natural in the same place. But it was not further involved in the disease.

On examining thin sections of this mass under the microscope, with the aid of various reagents, it could be seen that it consisted of an adventitious deposit, for which the original areolar tissue constituted a kind of stroma. The new mass was, in fact, imbedded in the old areolar network, the white and (especially) the yellow elements of which were visible in the form of tightly-stretched meshes, the interstices of which were so distended with the adventitious substance that they could only exhibit their ordinary curling and hooked appearance at the extreme edges of any given section. The vessels which could also be seen, were here and there connected with (and apparently occupied by) large compound cells, closely resembling those of the spleen, and, like them, containing what appeared to be blood-corpuscles in various stages of disintegration. The new substance itself consisted chiefly of delicate and indistinct fibres, analogous to the ordinary fibrous development of plastic lymph; with this fibrous mass, however, were mingled so many granular and indistinctly-nuclear particles, as to give the whole a somewhat larger amorphous constituent than is usually found in new fibrous tissue. Near the softened part, this amorphous element was more abundant, so much so as almost to suggest its approximation to the characters of tubercle.

The pulmonary disease—which though nowhere traceable by direct continuity into the tracheal, approached very near it, and, on the right side, increased in intensity almost directly with this propinquity—offered some analogies with the tracheal. The lung was infiltrated with a large quantity of albuminous fluid, in which were floating pus-cells and “mucous corpuscles,” together with innumerable epithelial cells. The latter were evidently the ordinary epithelia of the pulmonary lobules, abnormal in nothing save in their quantity, and in the polyhedral forms which close packing had forced them to assume. The lobules were indeed many of them almost stuffed with these epithelial particles, which, adherent to the lobular membrane, had either been washed out or broken down in the centre of the lobular cavity. The capillaries of the diseased lung were singularly empty of blood-corpuscles; while they were almost everywhere bulged, at short intervals of their length, by large ($\frac{1}{200}$ in. diam.) cells containing refractile granules, like the more

sparing and less uniform bodies of the same kind found in the tracheal deposit. In some instances the membrane enclosing these granules appeared to be deficient over part of their exterior: rarely it was absent all around them, so that they were merely granules aggregated into a spherical mass, not enclosed within a cell-wall. They seemed to be nowhere free in the lobules, except under circumstances which referred this extra-vascular site to accidental violence. No destruction or lesion of lobular tissue could be detected.

ART. 48.—On the determining causes of Vesicular Emphysema of the Lungs. By Dr. JENNER, Physician to University College Hospital, &c.

(*Medical Times and Gazette*, Jan. 24, 1857.)

After referring to the importance of ascertaining the determining cause of pulmonary vesicular emphysema as a guide for its prevention, and to the predisposing influence of all changes in the structure of the lung which impair its contractility, the author adverted to the fact, that the only force capable of unduly dilating the air-cells called into play during respiration is the pressure of air on their inner surface. He then briefly recapitulated the inspiratory theory at present generally received, and quoted the following passage from the latest exponent and most powerful advocate of that theory :—“The act of expiration tends entirely towards emptying the air-vesicles, by the uniform pressure of the external parietes of the thorax upon the whole pulmonary surface; and even where the air-vesicles are maintained at their maximum or normal state of fulness by a closed glottis, any further distension of them is as much out of the question as would be the further distension of a bladder blown up and tied at the neck by hydrostatic or equalized pressure applied to its entire external surface.” The object of his paper, Dr. Jenner states, is to show, in opposition to these views, that the force called into play by powerful expiratory effort is by far the most common and efficient cause of vesicular emphysema of the lung. Powerful expiration is, Dr. Jenner affirms, infinitely the most frequent determining cause of acute vesicular emphysema, and of the chronic vesicular emphysema which accompanies chronic bronchitis. It is probably the constant determining cause of the vesicular emphysema which supervenes on chronic congestion of the lungs and bronchial tubes, and on diseased heart, and of the atrophous emphysema of the aged, and the invariable determining cause of vesicular emphysema whenever it is general, or occupies chiefly or only the apex and border of the lung, and whenever the dilatation of one or more vesicles is extreme. Dr. Jenner denies that during expiration every part of the lung is equally supported and equally compressed, and he affirms that the apex, the anterior margin, the margin of the base, and some parts of the root of the lung, are at once imperfectly supported, and comparatively or absolutely little compressed only during expiration. The thoracic parietes covering those parts of the lung which are the least supported and compressed, are those which are seen when a person makes a powerful expiratory effort with a closed or imperfectly open

glottis, as in hooping-cough, croup, and hypertrophous emphysema, to be driven outwards. These same parts are the most common seats of emphysema. Three cases are detailed by Dr. Jenner in illustration of his position. In proof of the force exerted on the air-cells of the lungs when powerful expiratory efforts are made with a closed glottis, mention is made of the well-known fact, that during the expulsive efforts of labour one or more cells occasionally give way. In a postscript, the author mentions that he had examined several horses for the purpose of ascertaining whether the parts of their lungs affected with vesicular emphysema were situated in those parts of the thorax the least supported and compressed during expiration, and that in all he found such to be the case.

ART. 49.—*The danger of Artificial Respiration except in the prone position.* By Dr. MARSHALL HALL, F.R.S.

(*Lancet*, Feb. 7, 1857.)

In this paper Dr. Hall's object is to show that artificial respiration can only be performed with safety when the patient is in the *prone* position.

"If," he says, "the asphyxiated patient be moved and placed in the supine position, in which no attempts at artificial respiration can be effectually made, what is the condition of the rima glottidis, or entrance into the windpipe? Is it *free*, so that air may be pressed or drawn into it? And if apparently free, does it remain so at the moment when an effort to force or draw air into it is made?

"1. Is the tongue so securely situated, all muscular energy having ceased, as neither to *fall* backwards nor to be *drawn* backwards, and so close or obstruct the orifice and entrance into the windpipe?

"2. Is there no accumulation of mucus, or other animal fluids, or of fluids from regurgitation from the stomach, which may also obstruct the glottis? nay more, which may be forced or drawn into the windpipe, inducing a *second* and fatal suffocation?

"No one can say, *à priori*, that one, or even both, of these events may not occur. These are not only possible, but probable,—not *only* probable, but inevitable under certain circumstances.

"There is one fact of the utmost importance. When, from any circumstances, the nervous and muscular powers are in abeyance, nothing is so common as regurgitation from the stomach, from change of position, compression, &c. Under such circumstances, compression of the sides of the thorax would certainly be apt to produce this effect. Now, in the supine position, the matters so regurgitated would remain in the fauces, obstruct the glottis, or, when the pressure was removed, be drawn into the windpipe. Leroy's mode of attempting to effect artificial respiration, of which a sketch is given by the Royal Humane Society in its Reports, is utterly ineffectual; but if effectual, would be replete with danger. The only certain safeguard against such a fatal accident is—*the PRONE position*. In this position, the tongue tends to fall forwards, and all fluids flow from the fauces and the mouth, or are expelled by the first induced expiration.

"All this is reasonable, *à priori*. But we must not rest here. Our appeal must be to *facts*, not to mere notions. The facts must be ascertained by careful examination of the dead subject.

"1. What is the position of the tongue when the body has been roughly moved about and laid in the supine position, all cadaveric rigidity of the parts being overcome by previous movement of this organ backwards and forwards?

"2. What is the further position of the tongue in the supine position, at the moment of attempted inspiration, first, by means of the bellows, or secondly, by the removal of the pressure on the ribs or sternum, and the consequent dilatation of the thorax?

"These facts may be ascertained by removing the tissues on one side of the neck, so as to give a lateral view of the tongue, glottis, epiglottis, and pharynx, and by replacing them by a portion of transparent glass of the proper size and form, properly placed and carefully maintained in its position.

"The first part of this examination has been already made: The subject being placed in the supine position, and the lateral parts of the neck being removed, so as to admit of observing the relative position of the internal organs—the tongue, the epiglottis, the glottis, the pharynx,—it was seen that obstruction to the entrance of air actually did take place.

"I now propose to place a piece of transparent glass so as accurately to close the cavity and allow of the observation, first, of the effect of *position*, the supine and the prone comparatively, and then of any attempt to induce *inspiration*.

"A similar examination of this internal in reference to fluids present in it (and we never can know when such fluids are present) is unnecessary; fluids will gravitate to the lowest parts of a cavity, and will be drawn into an open orifice, such as the glottis, under the influence of air forced or inhaled into it. And such an event not only renders all attempts at *inspiration* nugatory, but induces a permanent because material obstruction of the entrance in the windpipe.

"In confirmation of these views I again appeal to experimental facts:

"The following experiment has been repeated *many times*, and has been witnessed by George Webster, jun., Esq., of Dulwich; Mr. Williams, superintendant of the Royal Humane Society, Hyde Park; and other gentlemen:

"The dead subject being placed in the *supine* position, and pressure made on the sternum and ribs, a little gurgling was heard in the throat; but, the pressure being removed, there was *no* evidence of *inspiration*.

"Now let us contrast with these abortive attempts to induce artificial *inspiration* in the *supine* position, the beautiful and life-giving results—*inspiration* and *expiration*—of alternate rotation from the *PRONE* position and *repronation*. I continue the quotation:

"The subject being then turned into the *PRONE* position, and pressure being made on the spine and the ribs, and removed as before, there were free *expiration* and *inspiration*."

"Far more marked is the effect of pronation and rotation :

"The subject was turned into the prone position : considerable expiration took place, which was much augmented by pressure of the hands on the back. On removing this pressure a little inspiration took place. The body being then rotated on the right side, considerable inspiration again took place, whilst moving through one fourth of a circle ; on continuing the rotation, inspiration continued until the shoulder was half-way between the lateral position and the table, when it ceased."

Then, after observing that this principle of *prone respiration* is of such importance as to demand a new designation—that proposed being *Prenopnæa*—Dr. Hall concludes by saying :

"I conclude the momentous subject by several *aphorisms* in regard to the treatment of asphyxia :

"1. The effects of suspended respiration can only be removed by the renewal of respiration.

"2. Artificial respiration can only be certainly, effectually, and safely performed in the PRONE position ; for,

"3. In the supine position the larynx is apt to be obstructed by the falling back of the tongue and epiglottis, or by the accumulation of fluids already in the mouth or regurgitated from the stomach.

"4. These fluids may be fatally inhaled into the windpipe when inspiration is mechanically effected.

"5. All other measures are subsidiary, even the rubbing the limbs with pressure upwards ; and all which exclude respiration are, *ipso facto*, destructive ; the *warm bath* is of *doubly fatal* tendency,—first, by excluding pronation and rotation, and secondly, by promoting the formation and the circulation of the blood-poison—carbonic acid."

ART. 50.—*The fatal tendency of the Warm Bath in Asphyxia.*

By DR. MARSHALL HALL, F.R.S.

(*Lancet*, Dec. 20, 1856.)

"Warmth is so obviously a stimulus, and a stimulus is so apparently required for a patient taken out of the cold water in a state of asphyxia, that in recommending the warm bath we seem to be addressing ourselves to the common sense of mankind, and it was a step in advance to entertain a *doubt* on the subject.

"But when we begin to experiment—when we learn that an animal deprived of respiration by being submerged under water, *lives longer* in *cool* water than in *warm* water, we learn to consider whether, in fact, coolness is not more favorable to life in the asphyxiated from submersion, than warmth. We recall to mind, too, that animals bear the abstraction of respiration in proportion to their coolness : the hibernant animals and the batrachian tribes will scarcely drown at all. If a kitten be first cooled, or if it be immersed in cool water, it will not drown so soon as it would do if submerged at its ordinary temperature in water of the same temperature—facts established by Edwards, by M. Brown Séquard, and myself, and witnessed by the

secretary of the Royal Humane Society, and by its superintendant, in Hyde-park.

"Thus experiment is made to correct preconceived ideas, however apparently consonant with common sense.

"There are other facts which point to other modes of treatment of the drowned, which the administration of the warm bath necessarily excludes. If a poor creature be perishing for want of food, we cautiously administer food. If a man be, in like manner, perishing for want of air, should we not administer air? Is this not simple and reasonable? And in the case of drowning, is not the want of air the first condition to which we should bring succour, and the want of temperature the second or third? And should we not first administer to the first want? Then in the case of drowning, we should administer air first and warmth in the second place. But may not the warmth administered without air do great and absolute injury? It raises the temperature, and in so doing augments the necessity of respiration to life.

"In the *first* place, if *any* effect be produced by the warm-bath, the circulation is accelerated. But to accelerate the circulation without inducing, at the same time, efficient respiration, is to augment the formation of carbonic acid—the *blood-poison*,—without its elimination from the system, and it induces, consequently, a fatal result;

"*Secondly*, all *excited* respiration through the medium of the cutaneous excitor nerves is excluded, the uniform temperature of the warm-bath excluding the excitants of those nerves arising from the *alternate* application of *heat* and *cold* to the surface;

"And *thirdly*, *imitated* respiration is excluded by the very sustained position of the patient, excluding, as it does, alternate pronation and rotation, and pressure applied and removed, or changes of position and compression, which induce respiratory movements.

"So that the warm-bath is not only positively injurious by *poisoning*, but negatively, by excluding the de-poisoning process.

"*Lastly*, the warm-bath excludes those frictions of the limbs upwards, with pressure, which really constitute the most effectual means of promoting the circulation and warmth.

"Nor is it unimportant to save the *time* expended in preparing the warm-bath, or in carrying the patient to it.

"And it is scarcely a minor point to direct *all our thoughts and energies*, undiverted, to *the* important remedies exclusively.

"In conclusion, the warm-bath is of *doubly fatal tendency*: it is so in itself positively; and it is so negatively, by excluding every real remedy."

(E) CONCERNING THE CIRCULATORY SYSTEM.

ART. 51.—*The relation of Cataract to Heart-disease.* By Mr. T. FURNEUX JORDAN, Demonstrator of Anatomy in Queen's College, Birmingham.

(*Medico-Chir. Review*, April, 1857.)

The object of this paper is to relate nineteen cases in support of the proposition that non-traumatic cataract is frequently associated with, and in many instances may fairly be regarded as, a result of cardiac impairment. The nature, extent, and locality of such cardiac lesion will be more fully referred to after a statement of the cases which have led to its inference has been placed before the reader. The cases are not selected, but are all that came before the author from one certain date to another. It is presumed that they furnish data for all the conclusions which it is the object of this paper to set forth. They are about twenty in number, and constitute but a third of the cases of cataract in which the author has ascertained the thoracic conditions; and in no one of the whole number of cases could a perfectly healthy condition of the heart be confidently affirmed to exist. The cases are given at some length, in order that the conclusions drawn might receive confirmatory evidence from the general symptoms, and the general and clinical history of each individual case.

"After a fair consideration of these cases," Mr. Jordan proceeds to say, "there can be no impropriety in making the affirmation with which they were introduced—that heart-disease is, in numerous instances, found in conjunction with non-traumatic cataract, and that consideration of the history of the cases where it is found warrants us to look at it in the light of a cause. It cannot be presumed that the heart-disease is a product of the same cause which induced the cataract, because then some other and prior cause of both would need to be eliminated. Such cause it would be difficult to demonstrate. No cause of cataract is known, unless heart-disease be admitted to act as such. That admission being made, the causes of heart-disease are numerous and undoubted."

"The questions which now most naturally arise are these:—What extent of heart-disease shall favour the development of a cataractous opacity? Is there any particular lesion of the heart which, more than another, predisposes to the affection in question? The cardiac disease exists only in a slight degree—a degree, however, unmistakeably appreciable, whether we consider general symptoms or physical signs. The cardiac impairment is indeed so limited that old age in cataractous patients is a familiar phenomenon to the ophthalmic surgeon. Nor does the true explanation of this circumstance rest on the inference that old age is itself a cause of cataract. A large number of cataractous patients are not old. In one third of the above cases, the age

is between forty and fifty, while two of the cases are under twenty years.

"It being presumed that cataract is a gradual degenerative change in the crystalline lens from a partially impaired heart, it is natural to infer that the causes of so limited lesions would accumulate in old people—in other words, that younger people would be cut off by more extensive lesions, either of the heart or other organs.

"Sudden death is not unknown in cataract—occasionally as the mortifying result of an operation; but so exceptional is it, that where so extensively a diseased heart is found as to render either death probable or life uncomfortable, cataract is one of the results least to be expected. Hence one common cause of cardiac mischief—Bright's disease—is unknown in cataractous cases, clearly because Bright's disease leads to other and graver results. Rheumatism, which may leave only slight impairment of the central organ of circulation, we have already seen to be a frequent incident in the history of cataractous cases—possibly in the same category with rheumatism, future research may include influenza, scarlatina, smallpox, and the various fevers.

"In reply to the second question—'Whether any particular lesion of the heart more than another predisposes to the affection under consideration?' a negative would seem the more correct reply. Cataract obeys the general law which regulates for the most part all the secondary results of heart-disease—namely, that the result is determined rather by the amount than by the precise locality or nature of the abnormal condition. Of course the infinite rarity of disease of the right side of the heart is understood. In the above cases, slight mitral regurgitation is the cardiac infirmity found in the greater number of cases. In some of the cases, the mitral and aortic orifices were both partially implicated; in one or two, the aortic only. In several of the cases, a fatty condition of the heart might be reasonably predicated. It will be seen that an extended praecordial dulness, without a proportionate increase of the heart's impulse, was a not unfrequent phenomenon. Hereditary heart-disease was found in more than half the cases where the hereditary tendency could be discovered. In case No. 19, there had been a chest-injury, evidently implicating the heart.

"It is an undoubted disadvantage that the foregoing conclusions have not, from entire absence of opportunity, received the confirmation of post-mortem dissection. But such additional proof, while desirable, is not absolutely essential. A morbid sound is assuredly an appreciable phenomenon, and cannot exist without a cause.

"Let us turn now for a moment to the collateral evidence confirmatory of the inferences above drawn. It has already been stated that the results of considerable cardiac lesion are not present, and cannot be expected to be present, in cataractous cases. The less grave symptoms, however, are frequently obvious, as vertigo, tendency to faintness, dyspnoea, palpitation. Those, too, who have mixed much with cataractous patients, must have observed frequently the peculiarity of their mental states—states not rarely found associated with heart disease. Extreme loquacity on the one hand, and obstinate taciturnity

on the other, are psychological indices by no means rare. Nor are these results mere accidental sequences of blindness—they are not found in the blindness occasioned by injuries.

"Probably much light may yet be thrown on the pathology of cataract by future microscopic examination of the opaque lens. In one opportunity I have had of examining a non-traumatic cataractous lens, the microscope revealed fat-globules in the nuclei of the delicate cells covering the surface of the crystalline lens, and here and there a few delicate plates of cholesterine might be detected. May not cataract be the result of a process identical with or analogous to that of fatty degeneration? That fatty degeneration of a portion of the lens may exist, is proved by the researches of Drs. Von Animon and Schön as quoted by Dr. Mackenzie. The former found, in cases of arcus senilis, a fatty arcus on the corresponding margin of the lens. Dr. Schön has found both the lens and posterior capsule affected with fatty degeneration.

"Authors, when speaking of the causes of cataract, have been universally cautious. One only that they have advanced needs any consideration, which is, the influence of occupation in those who are exposed to the glare and heat of furnaces. A sufficient refutation of this opinion is found in the statements of the most reputed authors themselves. Mr. Middlemore, whose extensive ophthalmic practice lies in Birmingham—the very hotbed of furnaces—says, speaking of such occupations, 'They are much more likely to produce glaucoma or amaurosis, a varicose enlargement of the vessels of the eye generally, or some form of chronic inflammation of the deep-seated textures.' Dr. Mackenzie, too, throws equal doubt on the same class of causes. If, indeed, cataract could be demonstrated to be more frequent in those whose occupations are in the vicinity of furnaces, would not the rational explanation of so increased frequency be, that the arduous occupation, the lifting heavy weights, and the extreme heat, would affect the circulation and its central organ, rather than the well-protected crystalline lens?

ART. 52.—*Can an open Foramen Ovale produce a bruit?*
By Dr. MARKHAM, Assistant-Physician to St. Mary's Hospital.

(*British Med. Journal*, April 4th, 1857.)

This case appears to illustrate a new fact in relation to the origin of cardiac bruits, for it points to a source and mode of origin of such a bruit, as yet neither recognised nor admitted in the history of the physical diagnosis of the abnormal sounds of the heart. Contrary to what is held on this subject, it appears to show that a bruit may be produced at an open foramen ovale; indeed, there is no other explanation. The case is also interesting as showing that the existence of tubercle may not be detected by most able auscultation.

CASE.—C. S., æt. 4, had always been considered a delicate child. A year ago she was, for some cause, under the care of my friend Dr. Sieveking, but had since then enjoyed good health up to the period of my seeing her. On

February 7th, 1857, the child was brought to the hospital by the mother, who informed me that she had been ill about three weeks; that she was falling away, had become thin and pale, had lost her appetite, and was occasionally sick; that she was also fretful and irritable, and had an occasional slight cough. On examining the chest, I found a rough, loud, systolic bruit, which was audible all along the base of the heart, and in the whole of the left sub-clavicular region; it was indistinctly heard below the nipple, and was scarcely audible at the heart's apex; its point of greatest intensity was to the left of the upper part of the sternum; it was not audible up the right edge of the sternum, along the course of the aorta. I found nothing abnormal in the sounds of the lungs, excepting only that I believed the subclavicular region of the left side was slightly duller, on percussion, than that of the right side. Taking into consideration the general condition of the child, the peculiar situation of the bruit, the absence of all symptoms of cardiac disease, and the possible presence of a left clavicular dull percussion sound, I formed the diagnosis that the child was suffering from tubercular disease of the lungs; though, at the same time, on account of the absence of other signs and symptoms of pulmonary disease, I placed a query by the side of the diagnosis entered on the paper.

During the following ten days, under the use of cod-liver oil and steel, the child appeared to improve in health. On the 18th, however, about twelve days after I had first seen her, she was brought to me, greatly altered in appearance. The mother informed me that, on the preceding evening, the child, who up to this moment seemed still improving, had been suddenly seized with violent convulsions and great difficulty of breathing, and that she had been struggling and fighting for life the whole of the night, the mother expecting that every moment would have been her last.

It was evident now that some serious mischief had fallen on the brain. Instead of being, as hitherto, restless and irritable, and hard to manage, she lay in her mother's arms, sleepy and drowsy, stupid, difficult to rouse, and partially senseless. There were also convulsive twitchings and jumpings of the right shoulder, but no paralysis. The face was flushed, the pulse rapid, and the skin hot and dry. There was no cough, nor was the respiration particularly affected; she breathed freely, in fact. On examining the chest, I found the heart's action violent; the bruit mentioned above was still present, but it was now louder, rougher, and more prolonged; it was distinctly audible over the whole praecordial region; also over the upper part of the sternum, and along its right border. It was also heard remarkably loud in the whole of the upper half of the interscapular space; equally loud on either side of the spine. The lungs were carefully examined, but nothing abnormal could be detected in any portion of them. A note was made at the moment that the respiratory murmur was everywhere loud and clear, and the percussion-sound good. Not the slightest râle was anywhere audible.

I may here observe, that the child was not altogether free from symptoms of cyanosis. It is true they were so little marked that I should not have noticed them, had not the mother called my attention to the circumstance that the child's feet were generally cold, and often of a blueish-red colour; and that the small veins immediately around the nails of the hand were swollen and dark coloured. The serious condition of the child at the moment entirely distracted my attention from this particular fact.

Taking into calculation the signs and symptoms here recorded, I came to the conclusion that the child was now suffering from cardiac inflammation. I founded this opinion on the violence of the febrile action; the intensity and now wider distribution of the cardiac bruit; and the absence of signs and

symptoms of pulmonary disease. The choreic twitchings of the arms, the strong beatings of the heart, and the cerebral symptoms, confirmed the opinion that there was cardiac inflammation, and that the disease had secondarily involved the brain.

The child died about seventeen hours after I had seen her and had made the above examination.

Necropsy of the body revealed the following condition of the heart and lungs. The *heart* presented, neither externally nor internally, the slightest trace of inflammation; nor was there, as far as the eye could judge, any deviation from their normal condition observable in any of the valves or of the orifices of the organ. There was neither constriction of the orifices nor of the roots of the great vessels, nor any defect in the valvular apparatus; in all respects the heart appeared healthy and normal, excepting one, and this was in an open condition of the foramen ovale. The foramen ovale, though largely open, so as to permit the point of the finger to pass from the right into the left auricle, was partially closed, on the left side of the septum, by a peculiar adjustment of the membranous valve. This membrane, about one third of an inch wide, was attached at the upper and lower parts of the opening, but at its intermediate parts was free and unattached; in consequence of which, it would permit a stream of fluid to pass readily from the right into the left auricle; but, should the current tend to pass in a opposite direction—from the left to the right auricle—then the membrane, falling back on the opening and acting as a valve, would prevent the flow of the fluid, excepting through two narrow semilunar slits which still remained unclosed, one on either side of the membranous valve.

The *lungs* were dark coloured, and did not contract much when the thorax was opened. On incising them, I found that there was not a single portion of any lobe of either lung which was not studded with miliary tubercles. These tubercles, about the size of mustard-seeds, were equably distributed through all parts of the lungs, and were evidently deposited at a similar moment, for they all presented exactly similar appearances; they were placed at intervals of about half an inch apart. The lung-tissue intervening was perfectly healthy and crepitant, and readily distensible by inflation. Very little bloody serum escaped from the cut surfaces of the lungs, nor was any observed in the larger bronchial tubes.

ART. 53.—*Two cases of Paracentesis Pericardii.* By (1) M. TROUSSEAU, Physician to the Hôtel Dieu, of Paris; and (2) M. VERNAY, Physician to the Hôtel Dieu, at Lyons.

1. (*Gaz. Hebdom. de Méd. et Chir.*, Nov. 7, 1856.)
2. (*Schmidt's Jahrbücher*, No. 3, 1857.)

1. M. Trousseau's case.—A young man, æt. 27, suffering from all the signs and symptoms of capillary catarrh on the one hand, and of endocarditis, with insufficiency of the mitral valve on the other, was admitted into the Hôtel Dieu, on the 2d of June, 1856. After this pericarditis supervened, with extensive effusion. The quantity of the effusion was estimated at no less than a litre. The sounds of the heart were inaudible. The anxiety and prostration were very great.

On the 1st of August a consultation was held, in which all the physicians of the Hôtel Dieu took part, and it was agreed to operate. The operation was performed by M. Trousseau himself on the spot. An incision was made with a bistoury in the centre of the dulness corresponding to the effusion,

which was in the intercostal space immediately below the nipple. The skin and muscles were divided successively and with great care until the pleura was reached. The pleura was then divided, and the finger being introduced into the pleural cavity the top was brought into contact with the distended pericardium. The distension was such that the beatings of the heart could not be felt. M. Rousseau then proceeded to open the pericardium by dividing its successive layers upon a director, and when the opening was effected there gushed out about 200 grammes of reddish serosity, which serosity immediately coagulated into a substance very like currant jelly. A considerable quantity of this fluid was lost amongst the bed-clothes. After this the patient was made to lie upon the left side, when about 200 grammes of a yellow liquid escaped from the opening. This liquid was different from that which had escaped previously, and that not only in colour but also in the fact that it did not coagulate. In fact, as appeared from the autopsy, this yellow fluid came from the pleura, whereas the red coagulated liquid proceeded from the pericardium. When the fluid had ceased to escape M. Rousseau attempted to inject some iodine into the pericardium, but in this he failed, a spoonful perhaps escaping into the pleuræ. After the operation the patient experienced considerable relief, and the pulse became more frequent and less distinct. In the evening, however, he was seized with convulsions, principally on the right side, and these convulsions recurred at frequent intervals during the night. He died on the 5th of August, five days after the operation.

On examination after death, the left pleura was found to contain a considerable quantity of yellow fluid, like that which had escaped when the patient was turned on that side during the operation; but no adhesion, or false membranes, or fibrinous flakes. The pericardium was of a reddish colour, globe-like in form, and as large as a man's head. There were no adhesions to the surrounding parts, except to a small portion of the edge of the overlying lung, and this was evidently of no recent date. Corresponding to the part where the opening had been made there was, on the interior, a violet spot which broke down under the slightest pressure, and allowed a sound to pass through; on the exterior the course of the opening was marked by some false membranes and by some considerable vascular injections. Contained in the pericardium were about 1000 grammes of the reddish coagulable fluid which had escaped in the first part of the operation, and in the fluid were a few fibrinous flakes, but only a few. The outside of the heart and the inside of the sac containing it were covered with a thick reticulated false membrane of a dirtyish yellow colour. The heart itself was slightly enlarged and hypertrophied concentrically, but there was no evident mischief in the valves. Some crude tubercles were scattered through the lungs and in the bronchial glands.

2. *M. Vernay's case.*—François F., æt. 23, a day-labourer, admitted into the Hôtel Dieu, of Lyons, the 23d of July, 1855. He had been affected with a continually increasing breathlessness, which symptom had come on in the first instance after an accident in which his chest had been much compressed for some time. On admission he exhibited symptoms of cyanosis, with considerable enlargement of all the superficial veins. The abdomen was distended, dull on percussion, and fluctuating. The chest was considerably bulged out, and that not only anteriorly but on all sides. Anteriorly on percussion there was marked dulness over the whole of the left side and over the two inner thirds of the right side; posteriorly there was increased resonance on the right side, incomplete resonance on the left side, but no dulness. On auscultation the sounds of the heart were scarcely audible, but no irregularity could be detected in them. No respiratory sound could be heard over the whole extent of the dulness. Posteriorly this sound was exaggerated on the right

side, and feeble and slightly rough on the left, as if the lung were compressed there. The dyspnoea intense. The pulse small, accelerated, regular.

On the 25th, an exploratory trocar was introduced between the fifth and sixth ribs on the left side, almost close to the edge of the sternum, and on withdrawing the stylet, about 500 grammes of yellow fluid escaped. This fluid escaped in a feeble *continuous* jet, and the current was scarcely quickened by taking a deep inspiration or by compressing the chest. The result was very satisfactory as far as it went. The dulness continued, but the breathing was greatly relieved. This improvement, however, was only temporary. On the 28th, another puncture was made, and 400 grammes of fluid evacuated. The liquid, however, continued to ooze from the opening until the 31st. In this case, also, the relief was only temporary. On the 12th of August paracentesis abdominis was performed, and a large quantity of fluid removed. This operation relieved the distress of breathing, but only for a time. Death happened on the 16th of August, being preceded by symptoms of purpura haemorrhagica.

On examination the pericardium was found to be an enormous fibrous pouch occupying nearly the whole of the thoracic cavity. The lungs were pushed back, especially the left. The liquid contained in the pericardium was of a yellow colour, containing a few fibrinous flakes, and sufficient in quantity to fill five wine-bottles. The heart had a macerated appearance, and here and there upon its surface were old pseudo-membranous patches. The aurico-ventricular opening in the right side was contracted by a fibrous ring, and that to such an extent that it was not possible to insert the tip of the little finger. The only other appearance which requires to be noticed, was that the left lung was so much compressed by the distended pericardium as to be almost carnified.

ART. 54.—*Cases of Pneumatosis.*

By Dr. J. A. MARSTON, Staff Assistant-Surgeon.

(*Medical Times and Gazette*, Feb. 7, 1857.)

Both these cases occurred in the Malta Military Hospital, in patients affected with typhoid fever:

CASE 1.—The first case noticed occurred in a private of a line regiment, suffering from typhoid fever, with the characteristic abdominal symptoms. He had been thirteen days in hospital, and was evidently sinking. The surgeon who attended him observed, in the afternoon visit, that the left side of the neck, and greater portion of the thoracic parietes, appeared much swollen, and upon pressure they were found to be distinctly emphysematous. Having been called to a patient a few days previously, the surgeon was able to state positively the absence of this affection then. The man died about five minutes after the first observance of this symptom; and, upon examination, it was discovered that air was mixed with the blood of the venous system generally, existing in the right side of the heart, liver, hepatic and portal systems, renal system, spleen, and the viscera generally. The lungs were most carefully examined, and no trace of rupture could be found anywhere; but they were emphysematous (the lobular variety), about their margins and apices. No gas existed in the pleural sacs, nor in the pericardium. The tumour over the chest and neck was plainly emphysematous and crackling, and easily reduced by multiple punctures. The bowels were tympanitic. The other pathological appearances were those of typhoid fever, viz., soft-

ening of the spleen, ulceration, and enlargement of Peyer's glands, some injection of the mesenteric glands, a very fluid condition of the blood, and a softened and uncontracted condition of the left ventricle of the heart.

CASE 2.—The second case occurred in a private of the East Kent Militia, stationed at Malta, æt. 20, admitted with all the symptoms of typhoid fever, who died of that disease on the 9th of September, 1856, after being eleven days in hospital. During life he had a well-marked rubeoloid eruption, symptoms of ulceration of the ileum, with hypostatic pneumonia. About forty minutes before death he used a bed-pan, and it was noticed that his body about the neck and chest appeared enlarged, and "cracked" on pressure. He had used no exertion, nor any straining. The post-mortem rigor ensued, as usual, quickly after death, and was slight. He died at three a.m., and his body was examined at half-past twelve p.m. same day, nine hours and a half after death. The weather was not remarkably warm, and the body had not undergone the slightest decomposition. The external surface about the chest and lower part of the neck was occupied by a diffused tumour of a clearly emphysematous nature; and, as in the other case, the swelling gave exit to air by puncture, more or less subsiding at the same time. Upon raising the sternum, it was found that the lungs were emphysematous, not collapsing much by the pressure of the external air. The pericardium was distended with air completely; the left ventricle, and no portion of the arterial septum contained any; but the right side of the heart was distended. Air existed also in the pulmonary artery; none was found in the pulmonary veins. The lungs were much congested at their base, probably chiefly the result of position, but no false emphysema, or rupture of the pulmonary tissue existed anywhere. The jugulars also contained air. The blood was frothy in the hepatic venous system, from admixture with a gas; but no air appeared to exist in the portal system. The veins of the spleen and kidneys also contained air: both the venæ cavæ contained air; indeed, this condition was general to the venous system. Tympanitic distension of the abdominal viscera existed also. The lesions were those of typhoid fever, an enlargement and ulceration of Peyer's glands, similar exactly to the last case.

ART. 55.—*On the Sphygmoscope.* By Dr. SCOTT ALISON, Assistant-Physician to the Hospital for Consumption at Brompton.

(*Lancet*, Jan. 10, 1857.)

The sphygmoscope, or cardioscope, measures the extent of the impulse of the heart. By means of it the mind is assisted in estimating the impression made upon the hand by the shock of the heart. In the investigation of many properties besides extent, this instrument affords evidence which the hand is scarcely fitted to supply. The sphygmoscope notes the very instant the impulse commences, the exact period it lasts, the stage of time (if any) which elapses between the impulse and the diastole, the moment of the commencement of the diastole, the time of its duration, and the pause (if any) between it and the next systole. It marks the unity or the divided character of the contraction or the diastole, and the rates of velocity of the respective parts when the movements are divided. The phenomena occurring in one impulse period are visibly compared with those occurring in another. With the aid of mediate or immediate auscultation, the relations of the heart's movements are made out with

great delicacy and accuracy. It seems to indicate the relative time of the arterial beat, in all parts of the body, with the cardiac impulse; the arterial beat being discovered either by the hand, or by a small instrument of the same construction as the sphygmoscope, and by means of india-rubber tubing laid alongside the chief instrument. The extent of the impulse, as indicated by the sphygmoscope, the same as when the hand is employed, is most in children, in women, and in tall thin men; in the nervous and excitable; in those suffering under phthisis in its latter stages, hypertrophy, or hypertrophy with dilatation of the heart; while the instrument is little affected by the soft, fatty, or flabby heart. The very fat scarcely influence the instrument. The sphygmoscope usually indicates a uniform rate of systole: sometimes it marks a difference of rate between the commencement and the conclusion; and a division has been noticed in one or two cases. The same observations hold in respect to the diastole. No pause is usually observed at the conclusion of the systole, but in one or two persons a slight stop has been noted. Contrary to what might be expected, it is only very rarely that any distinct pause is indicated between the conclusion of the diastole and the commencement of the concluding systole. The impulse of the heart is indicated by the rise of the instrument, the diastole by its fall. The first sound of the heart is synchronous and isochronous with the ascent, and the second sound is synchronous with the first part of the fall. The finger applied to the radial artery feels the arterial beat at the commencement of the fall; a small instrument applied to the same artery, and having its glass tube placed beside the heart instrument, is affected at the instant the latter instrument begins to fall. The radial pulse, estimated in either way, is likewise synchronous with the second sound of the heart. The synchronousness of the commencement of the fall of the heart instrument, indicating the commencing diastole of the radial pulse felt by the finger and indicated by the small instrument, and of the second cardiac sound, is ascertained by the corroborating and mutually guiding evidence of three senses—viz., the eye, the touch, and the ear. This important fact is opposed to the teaching of both physiologists and pathologists. While the radial artery beats only at the conclusion of the rise of the instrument,—i. e., behind the commencement of the systole by the whole period of the duration of that movement, which is equal to half a second in the case of a man whose heart beats sixty times in a minute, and whose systole and diastole are of equal duration, and in whom no pauses are made out,—no appreciable interval is made out between the rise of instruments placed upon the most distant parts of the body. The simultaneous rise of distant arteries, and their equal allochronousness with the cardiac rise, is seen by placing the instruments close together. While the heart instrument rises the arterial instrument falls, and *vice versa*. The pulse beat may be conveyed through four or more feet of elastic tubing, without loss of time. Thus, a small, short glass tube applied to the radial artery, and another supplied with four feet of elastic tubing adapted to the same vessel, rise at the same instant of time. The diastole of the pulse is shorter than the systole of the heart, and the contraction of the artery always continues till the next diastole or

pulse. When the pulse intermits, the contraction equally continues till the next pulse. In disease, the impulse may be greatly reduced or altogether lost, as in emphysema and double hydrothorax. The impulse area is increased in hypertrophy with dilatation, and the impulse that may be found, displaced, raised as high as the second rib, or lowered as much as the eighth. The displacement may occur to the right side. Systolic murmurs, like the first sound of the heart, are heard during the ascent of the instrument: they are isochronous. Diastolic, aortic, and pulmonary murmurs are heard during the descent, and the sound and the fall are isochronous, unlike the healthy second sound and the fall—the healthy sound occupying only the first part of the fall. The healthy sound depends upon an act occurring at the first part of the diastole; the murmur depends upon an act—viz., regurgitation—taking the whole period of the diastole. Formissement botaire has hitherto been found to occur during the ascent of the instrument,—i. e., with the ventricular systole. This has been felt during the rise, while regurgitant arterial murmur in the same patient has taken place during the fall. The sphygmoscope gives intimations of cardiac impulses which fail to give any appreciable cardiac wave. For the purpose of restraining the elevation of the praecordial region in the act of inspiration, and thereby securing the unmixed cardiac movement, a border of wood is supplied to the cup of the instrument, and by means of this the praecordial region is slightly compressed. Modified, this instrument is converted into a pneumatoscope, or breath-explorer. It gives the duration of inspiration and expiration, and of pauses when they occur. When expiration is divided, the fall of the instrument is divided. No pause has been observed between the completion of inspiration and the commencement of expiration. But in some persons a very long pause—one third of the inspiratory period—has been noted between the completion of expiration and the commencement of inspiration. The comparative extent of inspiration in the two sides of the thorax, or in different parts of the same side, is exhibited by different instruments having their glass tubes brought together for inspection. By means of two instruments so arranged, it has been found that the commencement of the respiratory acts at the top of the chest and at its base is simultaneous, contrary to the views of some teachers. The external inspiratory muscles and the diaphragm act in perfect unison.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 56.—*Glycerine and Borax in cracked Tongue.*
By Dr. BRINTON.

(*Dublin Med. Press*, April 22, 1857.)

Dr. Brinton had under his care an inveterate cracked tongue, which had baffled all attempts at alleviation for many years, and which could not be referred to any syphilitic poison. It rendered eating, and especially speaking, very painful. Dr. Brinton made use of a favorite

remedy of his in such cases—viz., borax dissolved in a lotion of glycerine and water (two scruples, one ounce, and four ounces respectively). It at once gave marked relief; and after a few days, during which it was the only remedial agent, the improvement seemed increased by iodide of potassium and bark taken internally. The patient has now considered himself well, and discontinued the lotion for some weeks, and the cracks are only visible as depressions in the mucous membrane.

ART. 57.—*On perforating Ulcer of the Stomach and Bowels.*
By Dr. J. BOWER HARRISON.

(*Pamphlet*, 12mo, Churchill, pp. 68, 1856.)

From some cases which have fallen under his own observation, and which are detailed in this pamphlet, Dr. Harrison is led to believe that it is possible to arrive, even during life, at a tolerably certain opinion as to the existence of this terrible malady. The signs are—

- 1st. The suddenness of the invasion, and the acute pain and tenderness of the abdomen.
- 2d. The effect of liquids in aggravating pain.
- 3d. The effect of change of position in altering the seat of pain, as well as in aggravating it.
- 4th. The absence of *urgent* vomiting or diarrhœa.
- 5th. The comparatively early collapse.
- 6th. The absence of other apparent causes, as hernia, pregnancy, or poison.
- 7th. The existence, generally, of previous chronic dyspepsia.

ART. 58.—*Obstinate regurgitation of the Food treated by Inhalation of Chloroform.* By Dr. ISAAC TAYLOR, Physician to the Belle-Vue Hospital, New York.

(*New York Journal of Medicine*, Nov., 1856.)

This case was read before the New York Medical Association:

CASE.—“September 1, 1855, I was requested to visit a married lady, æt. 27 years, who had suffered from chronic vomiting for several weeks. She had just returned from Newport, R. I., where she had gone to enjoy the benefit of sea-bathing for the more complete restoration of her health, which had been delicate for the last few years, but had somewhat improved the few months previous to her going to Newport. Whilst she was at Newport, the affection of the stomach commenced. In the early part of August—I think the 6th—she had been bathing, and walked from the beach to her residence, a distance of one mile, which fatigued her very much. This, with the unpleasant information she had received by letter after her return, from a near relative, producing some excitement of mind, was believed to be the exciting cause of the malady. When I visited her, I found her looking cheerful, and her mental energies lively as usual. No depression of spirits; there was not much, if any, emaciation since I last saw her, July 19; there was more feebleness; pulse natural; skin the same in feel and function; tongue clean and looking natural. The countenance did not present the appearance of any

serious disease of the stomach or of the abdominal organs ; appetite was good, and she enjoyed her food with some relish. The bowels were not regular, nor had they been for some time, which was the reverse of what formerly had been the case, having been subjected to a form of chronic diarrhoea for the last two or three years, at intervals. She had been married for several years ; was of a leuco-phlegmatic temperament, and had had five or six miscarriages. A sub-acute ovaritis had existed, and which, under treatment, yielded during the spring. The diarrhoea also ceased previous to her leaving for Newport. She vomited, or rather regurgitated, her food after every meal, and whenever any fluid of the smallest quantity was taken, and seldom without something was swallowed. There was a slight burning sensation in the region of the cardiac extremity of the stomach, under the scrobiculus cordis, after she had rejected what she had taken. There was no pain on pressure over the region of the stomach ; no tenderness ; no enlargement was perceptible over the abdomen ; no tenderness of the spine, but tenderness, the size of a quarter dollar, in the right iliac region, corresponding to the lumbo-abdominal nerves in this section of the abdomen ; urine natural, and no albumen ; the menstrual function was normal ; there was no disease of the uterus. This organ was normal in size, position, and appearance. The ovaries also the same. The food or drink was returned, with very little change, as soon as swallowed, without nausea, and without convulsive effort or change of countenance. She had not thrown off any blood ; acidity sometimes was present, and more so during the first week than ever afterwards during the time I was in attendance. The contents of the stomach, provided the patient had eaten or drank a larger quantity than usual, would be regurgitated, as a general rule, mouthful by mouthful, till the whole was eliminated. Sometimes, however, it would be rejected in larger quantities at a time. It usually occupied her from a half hour to one hour and a half to reject her food and drink. Solid food was partly digested, and other times not. She had been treated homœopathically while at Newport, and also by the regular method of treatment.

"From the appearance of the patient, and the manner in which the contents of the stomach were rejected, I considered it a case of regurgitation, and not vomiting, and that the malady appeared to be seated in the eighth pair of nerves, and the solar or semilunar plexus of nerves of the stomach was incidentally involved ; that the stomach was not diseased in any of its tissues at the time. I did not consider it, therefore, as merely hysterical or as sympathetic of any uterine trouble, or of any internal organ. This opinion was expressed to the family the day following. The treatment, with this view of the case, was principally by those remedies that would have an influence over that portion of the nervous system. The alkaloids were first resorted to, and then the various sedative preparations. Cannabis Indica, in the one-sixth of a grain, was of some service. McMunn's elixir of opii, in five-drop doses, with five drops of vinegar, repeated every few hours, after meals and during the time of meals. The various mild ferruginous preparations were tried ; chloroform internally and with camphor ; nitric acid upon the stomach ; blisters alone and dressed with the alkaloids ; epispastic, not only to the stomach, but to the spine ; also dry cupping to the spine along the greater part of its tract ; stimulating liniments of chloroform, with aconite, etc., were used. Nutritious enemas were also resorted to. In truth, everything that could be suggested, and that was deemed advisable, was made trial of. Her diet was restricted, and cream and milk, in tea-spoonful proportions, were administered every half hour. This treatment seemed to prostrate her so much that she was permitted to eat whatever she

pleased, and in this manner, although the food was regurgitated, she was sustained better, and, as I believe, only in this way. Out-door exercise was resorted to as much and as often as her strength would admit of. As nothing I had suggested in the treatment of the case appeared to afford any benefit, Professor Joseph M. Smith was invited by me to visit her, six weeks after I first saw her, and two or three weeks after this visit of Prof. Smith, Dr. C. D. Smith was invited to join Prof. Smith and myself. Under the treatment then advised, the malady still continued without any change for the better.

"As no favorable result had ensued by March, she was advised to make trial of a sea voyage. She bore the sailing remarkably well, so much so as to merit the appellation of being 'the best sailor aboard of the ship,' and improved as respects her general strength, but she was not benefited in the least while at sea, respecting the regurgitation, nor when she arrived at Paris. She there came under the supervision of Sir Joseph F. Olliffe, who had associated with him Professor Trousseau during the whole of the time she resided there, which was three months. She was also visited by Prof. Rayer. The opinion of Prof. Rayer was, that it was a severe case of gastralgia. The views entertained by Sir Joseph and Professor Trousseau were—I quote from Sir Joseph's letter to me, June 18, 1856: 'It is a case of obstinate regurgitation, unaccompanied with organic lesion, but from its antecedents—the anterior uterine affection, the frequent miscarriages, and the manner of invasion of the malady,—we both were impressed with the idea that the uterus was the *point de départ* of all the mischief. We determined, accordingly, to establish a point of irritation on that organ, by applying the actual cautery, and selected the anterior labium of the cervix on which there existed a small ulceration.' The treatment of these gentlemen proved of no avail, and the usual internal methods of treatment for affections of the stomach were also instituted, with the like result. Hydropathy was tried, as well as electro-magnetism.

"On the 8th July, the patient once more presented herself to my notice, without any change for the better. She was more emaciated, and weighed about eighty-three pounds, as was afterwards ascertained. For several days after she returned, nothing was suggested till she had recruited from the effects of her sea voyage, and, on the 17th July, after a slight breakfast consisting of toast and tea, and as soon as she had swallowed it, and before it was regurgitated, she was brought under the partial influence of chloroform, and as she did not reject her food after fifteen minutes, the inhalation was continued for one and a quarter hour, and during that time no regurgitation occurred. There was, while under the effects of the chloroform, considerable uneasiness and distress in the stomach, which was perceptible from the moaning of the patient and the vermicular motions of the stomach, while the food was undergoing the process of digestion. Fifteen to twenty minutes after the chloroform had been given, she regurgitated part of her food, and continued to do so from three quarters to one hour, but not to the same extent as previously. After the trial of chloroform that day, she did not appear much feebler than before it was taken. Her food, July 17th, was of a light nature and smaller in quantity than she had usually partaken of; it was rejected, but not as soon or as much. The following day, July 18th, she was allowed to remain quiet with the same light nourishment as the day before. On Saturday, July 19th, at half-past two, p.m., directly after she had eaten her dinner of beefsteak, tomatoes, potatoes, bread, and some brandy and water, the chloroform was administered, and continued to four, p.m., one hour and a half, and to the same extent of partial anaesthesia as before. No regurgitation

occurred till half-past four p.m., and then it was at long intervals and in mouthfuls, and nothing like the quantity she had eaten. The distress, judging from the moaning of the patient, and the writhing motions of the body, was more severe, and the attempt to regurgitate more evident. This, I presume, was owing to the larger quantity of food she had eaten and of a more solid nature than before. In the disgorging of the food there was some acidity. No food that evening was allowed till next morning, July 20th, when the light food she had taken for her breakfast was not cast off as soon or as much; and, during the afternoon, after another light meal for dinner, the same thing recurred but to a partial extent. At eight, p.m., she was much enfeebled, but this was attributed to her not having partaken of the usual quantity of food she had been accustomed to, and some brandy and water was advised in small doses. At ten, p.m., there was a little regurgitation with some acidity. Ord. mixture composed of spts. ammonia comp. bi-carb. potass., nit. potass., and hydrocyanic acid in solution, and three table-spoonfuls of this mixture were given. The medicine in this quantity was retained. In one hour afterwards, as there was some nausea, it was given again and retained—a symptom in the treatment of the case which was very gratifying to perceive, for so large a quantity had not been retained as long before since she was taken sick; and although I had, during the evening, my suspicions awakened to the possibility of her improvement, I felt at this time stronger encouragement to believe my patient was in a fair way of recovery. One hour after the last dose, as my patient had not slept during the day, and but little the evening previous, I gave her a pill composed of Indian hemp, quarter gr., and watery ext. of opium, one gr., and one hour after this, a second. After a short interval of time, as she appeared inclined to sleep, I left her till half-past seven, a.m., directing that some chicken iced jelly should be carefully and nicely prepared, which was given in tea-spoonful quantities every hour for three hours, to be again resumed for three hours; this quantity in such a given time was continued till the next day, and then it was given in dessert-spoonful quantities with tea-spoonful doses of brandy and water. The third day, July 23d, the nourishment was increased to table-spoonful proportions, every ten or fifteen minutes, till a sufficient quantity of food was taken, and with a gradual increase of other kinds of food, and under the general advice and directions given, she improved so much as to be able to leave for Lebanon Springs, August 6th, and continued to improve during a sojourn of four weeks, in the mountain region, so as to gain fifteen pounds during that time, and she is at this time enjoying as good health as previously; nor has any further evidence of the malady manifested itself from the time it ceased, July 20th, to the present moment."

ART. 59.—*Case of Gangrene of the Liver.*
By Dr. J. T. BANKS, King's Professor of Physic.

(*Dublin Hospital Gazette*, Dec. 8, 1856.)

Cases of gangrene of the liver are of extreme rarity, so rare that one case only fell under the notice of Andral and Rokitansky. This case, moreover, differs from the greater number of the cases which have been placed on record, in that gangrene of the liver was the only lesion existing, and that other organs did not present any similar or cognate affection.

CASE.—On Friday, the 21st November, a man, æt. 60, presented himself at

the Whitworth Hospital; he had walked from his home which was a considerable distance from the hospital, and was admitted in the afternoon.

The following facts relative to his history were obtained, partly from himself, and partly from his daughter:—He had been a farmer, and lived in the county of Meath until six years since, when he came to reside in Dublin; his health had been excellent, and he was a person of great bodily strength; he weighed generally about sixteen stone. His circumstances were good, and he lived "rather freely;" but of late years he had experienced reverses which preyed very much upon his mind. He had been in the habit of drinking largely in the days of his prosperity, but had not done so for a considerable period.

His own statement, and that of his family, fixed the preceding Saturday as the date of the commencement of his illness. He is said to have been quite healthy up to that day, but fretted much, on account of failure in business. On Saturday he was seized with vomiting, and severe pain in the stomach and right side; the pain in the side he compared to the sensation of pins sticking him; he had also severe headache. For the following two days he remained in the same condition, but on Tuesday, feeling better, he walked out. In the course of the day he was attacked with shivering, and so severe were the fits that, in describing them, he said he could only compare them to the ague. On Wednesday and Thursday he remained in bed, and Friday morning his family perceived that he asked questions at random, appearing not to be quite himself. It was then proposed that he should go to an hospital. On admission, he was immediately placed in bed, and stimulants freely administered by Mr. Crosbie, my clinical clerk, who found the patient in a state of extreme debility. On the following morning (November 22d), I found him almost pulseless (the heart's impulse scarcely perceptible, and the sounds extremely feeble); he had vomited repeatedly, his breathing was rapid, the surface of the body pale, and the temperature low. There was not the slightest trace of jaundice; his countenance was indicative of great distress; he complained of pain in the right side, extending across the epigastrium. On examination, the liver was found considerably enlarged, and the pain, which was complained of as constantly present, was greatly increased by pressure. It was evident that the liver was the seat of the disease, whatever might be its precise nature. After a minute examination, and on considering the case in all its bearings, I ventured to hazard a diagnosis. I supposed that the lesion of the liver had been intensely acute hepatitis, which had terminated in the formation of abscess. To this opinion I was led by the occurrence of repeated rigours. It was obvious that the man was rapidly sinking—there was a highly offensive cadaveric odour, more powerful than I had ever before perceived, and he expired at a very early hour on the following morning, the fifth from the occurrence of the rigours.

The body was examined in five hours after death. There was no appearance as if the deceased had laboured under any protracted disease, the muscular development was above the ordinary standard. On opening the thorax the lungs were found slightly congested. The heart was larger than natural, it was covered over a considerable extent of its surface by a thick layer of fat; the left ventricle was hypertrophied, the valves did not exhibit any lesion beyond slight thickening of the edges. The walls of the right ventricle appeared to have undergone fatty degeneration, and my friend Dr. Frazer, who kindly examined the heart microscopically, found that there was not only interstitial fatty deposit, but that the muscular tissue of the right ventricle had undergone fatty degeneration. The stomach and intestinal canal were free from disease; the kidneys were rather larger than natural and hy-

peræmic. The liver, as it lay *in situ* appeared much beyond the normal size, it was bright red, there was no adhesion or other evidence of inflammation of its peritoneal covering.

On removing the liver and examining the concave surface, the right lobe over nearly its whole extent was found to be of a deep greenish black hue.

On making an incision into the part some dark fluid flowed out, and the abominably foetid odour so characteristic of sphacelus was painfully perceptible to us. The greater part of the right lobe, but not extending to the convex surface, was in a state of gangrene, the hepatic tissue broken down and converted into pulp, presenting very much the ragged shreedy appearance of gangrene of the lung. Apart from the liver, it would not have been possible to determine with certainty to what organ this degenerated mass of putridity belonged.

The gangrenous degeneration had an abrupt termination, but there was no appearance of a cyst having existed. There was no cavity, nor a trace of purulent matter, it was clearly a portion of the organ, which had passed into sphacelus, not an abscess the walls of which or the neighbourhood of which had become gangrenous. The remainder of the liver did not present any alteration from the normal state beyond simple hyperæmia. The gall-bladder was small, its walls thickened, and it contained mucus not bile.

ART. 60.—*Case of dislocation of the Spleen.* By Dr. HELM.

(*Wochenbl. der Gesell. der Aerzte*, No. 37, 1856; and *Med.-Chir. Review*, April, 1857.)

In the observations on the case, it is stated that Professor Dietl details a similar case observed by himself, in the 'Med. Wochenschrift,' 1854; and quotes three cases in another paper contained in the same journal for 1856. All the cases hitherto observed have occurred in females. It is due to an increase of the volume of the spleen, when there is not a coincident increase in the strength of its ligaments.

CASE.—B. G., a needlewoman, æt. 21, who had had ague two years previously, was seized, on the 7th March, with violent pain in the left abdomen: this increased in intensity; and on the following day she was admitted into the hospital at Vienna, where she stated that, over-night, a tumour had formed in her abdomen, which could be felt between the ribs and the left ilium, of the size of a child's head. The splenic region was sonorous. The slightest contact produced intense suffering, and the rapidly-increasing tympanitis soon prevented the possibility of feeling the tumour. There was great dyspnœa, but no apparent pulmonary or cardiac disease; the pulse very small; constant emesis. Death the same evening at seven, p.m.
Post-mortem: Nothing of consequence was observed in the cranial and thoracic cavities. The distended abdominal cavity contained about ten pounds of a chocolate-coloured acid liquid, mixed with undigested food. The liver was pushed up, and anaemic. The spleen, quadruple the normal size, lay on the inner surface of the left ilium, its hilum directed upwards: it was torn from its connections with the stomach and diaphragm, and hung by a pedicle which was formed by the vessels and the cellular tissue accompanying them, the pancreas and the ligamentum pancreatico-lienale. The spleen was twice rotated upon its axis in such a manner that the pancreas was turned spirally round the pedicle. The stomach was pushed up into the left hypo-

chondrium, so that its posterior wall was directed forwards. Its coats were converted into a gelatinous, dark, reddish-brown, friable mass ; and a space of the size of a desert-plate, at the fundus, was completely diffluent.

ART. 61.—*Ergotine in Epidemic Diarrhœa.* By M. MASSOLA.

(*Gaz. Hebdom. de Méd. et Chir.*, Nov. 25, 1856.)

In a communication to the Academy of Medicine in Paris, M. Massola states that he found great benefit from the use of ergotine in the fatal epidemic diarrhœa, which prevailed so extensively among the Sardinian troops in the recent campaign in the Crimea. From fifteen to twenty grains were added to $\frac{3}{4}$ viii of water, and a table-spoonful of this mixture was given every half hour. M. Massola states that astringents, tonics, opiates or stimuli, were of little avail as compared with the ergotine.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 62.—*Hæmaturia produced by Mental Emotion.*

By Dr. BASHAM, Physician to the Westminster Hospital, &c.

The following case, and the remarks which accompany it, are from a clinical lecture on certain states of the urine, symptomatic of disease of the kidney.

CASE.—The case of Edward B—, in Burdett ward, appears to illustrate this rare form of hæmaturia, the recurrence of the attack being invariably connected with mental disquietude. He is a shoemaker, æt. 43, of spare habit of body. He states that he is a teetotaller, and has been so for years ; that about nine years since he first noticed his urine discoloured with blood ; its appearance was unaccompanied by any pain or constitutional disturbance ; it alarmed him, and he sought advice. He was ordered change of air, and cessation from his very sedentary employment. He states that he was relieved for the time, but that three years afterwards he suffered another attack. On this occasion he recollects that it was preceded by a sense of weight and pain in the loins. He was treated at Charing-cross Hospital, and on subsequent occasions at other hospitals, always with relief ; the continuance of the blood in his urine seldom exceeding ten or fourteen days. During the last twelve months the hæmaturia has become more frequent, and he has had two attacks in the course of the last six months. On admission, he complained of pain in the loins, and the urine was highly charged with blood. He is free from all other symptoms of disease : the chest is natural : heart sounds natural ; the abdomen is flat, soft, and elastic ; there is no fulness in the lumbar spaces, and no tenderness on deep-made pressure ; the region of the liver does not exceed its natural limits. The appetite is good, the tongue clean, the bowels natural. Micturition is not more frequent than natural, nor is there any difficulty or pain. The urine is of a dark red colour, but is free from visible clots ; allowed to rest, it deposits abundance of blood-discs. He was ordered to be cupped to ten ounces from the loins ; to take five grains of gallic acid every four hours, and half a drachm of the compound jalap powder every

alternate morning, and a warm bath each alternate evening. The urine was examined by the microscope: numerous blood-corpuscles were visible, and many fibrinous casts entangling blood-discs in their substance. These fibrinous coagula had the appearance of having been moulded in the uriniferous tubes, and washed therefrom by the escape of the urine; their size suggested their formation in the straight tubes of Bellini. Ten days after admission, the urine was quite free from all vestiges of blood to the unassisted eye; it presented a faint albuminous cloud by heat and nitric acid, and, allowed to rest, it deposited a flocculent precipitate, which, by the microscope, was resolved into amorphous fibrinous masses, slightly stained with hæmatin; a few blood-discs were seen, but no other microscopic objects. The patient is free from all traces of lumbar pain, and he thinks that his bodily strength is increasing. Three weeks after admission, he presents the same favorable condition: no trace of blood nor albumen in the urine; the same flocculent deposit of minute amorphous coagula stained with hæmatin, but no casts of the tubes, nor any blood-discs. The medicines were discontinued. On the fifth week from admission he complains of a return of the lumbar pain, but there is no alteration in the natural appearance of the urine, except that crystals of oxalate of lime were observed interspersed amongst the minute amorphous coagula above noticed. He was discharged in the month of August, 1855, and you have seen him from time to time attending to report his freedom from any return of hæmaturia; but the last visit he complains of great increase of pain in the left lumbar region, extending upwards to the shoulder of the same side. In October he brings a sample of his urine, and it is again blood-red, and possesses the same characters as when we first examined it; but it is unaccompanied by any constitutional disturbance, and he states that he has no difficulty in passing his urine, nor is there any undue frequency of micturition, nor any local symptoms different from those when an in-patient. He adds an important fact: that these recurrences of bloody urine are always caused by some vexatious mental excitement. The man, it appears, is quiet, sober, and industrious, and, upon principle, totally abstains from all fermented drinks. His wife has no liking for water, but possesses the common prejudice in favour of alcohol, and, whenever she can command the means, indulges to excess; her demeanour towards her husband at these times is somewhat at variance with her marriage vows, and to avoid annoyance, our patient states that he has endeavoured to effect a voluntary separation; that while he is left to himself, undisturbed, his malady disappears; but the moment he is subjected to visits from an inebriated woman, the hæmaturia instantly returns. He has noticed this sequence to be so uniform, that he firmly believes that the vexation and trouble to which he is occasionally exposed are the sole causes of his disease. I am inclined to think the man's inference not so far wrong or unintelligible as it may at first be considered. It may be readily granted that neither anatomically nor physiologically is the connection between renal hemorrhage and mental emotion very apparent. It is true that certain mental emotions are known to excite, more or less, the renal function; but the cases are extremely rare in which a morbid state like hemorrhage can be traced to a similar exciting cause. The records of medicine, however, are not without such cases. Rayer, in his work on 'Diseases of the Kidney,' in treating of renal hemorrhage, mentions a case of hæmaturia (tom. iii, p. 359) brought on apparently by no other cause than mental excitement: "Survenu presque immédiatement après un violent accès de colère." The accompanying symptoms were, severe hypogastric pain, with heat and pain in the course of the ureters, and sensation of weight and aching in the region of the kidneys. He was quickly relieved by rest, warm baths, diet, and mucilaginous drinks.

I saw a gentleman last spring seventy years of age, who suffered from occasional attacks of hæmaturia, traceable to no other cause than mental excitement. There were no gouty symptoms, or the least tendency thereto. He was a remarkably healthy, vigorous, country gentleman. He had consulted the most distinguished physician of our day, whose name is inseparably connected with renal pathology, and whose opinion, as the patient informed me, was in conformity with the views now expressed. This man, B—, has, in the course of the last summer, twice presented himself with a return of the complaint. You have seen him on these several occasions. The hæmaturia, when he appeared in June, lasted only three days. On the fifth day the urine was free from all trace of blood or albumen. Trouble and excitement preceded the attack. In July he had another attack; and so dependent is the hæmaturia on mental excitement, that on this occasion a very trivial circumstance seems to have induced it. It was a dispute with his employer as to the rate of remuneration he should receive for work done. On each of these attacks the symptoms exhibit the same peculiarity: a sense of weight and pain about the loins, but unaccompanied by any constitutional disturbance, greater frequency of micturition, or inconvenience or difficulty in that act.

"It is thus," proceeds Dr. Basham, "by the absence of all the usual symptoms of irritation of the kidney, such as are ever present in gouty inflammation, whether excited by the presence of calculus or not; it is the absence of constitutional disturbance, whether febrile or drop-sical; it is the temporary character of the attacks, the urine in a few days returning to a clear and natural state, without any trace of albumen, or any morbid morphological element therein, that justify our excluding as the cause of hæmaturia all those organic diseases of the kidney in which hemorrhage occupies the position of a leading symptom, and attributing the malady exclusively to the operation of mental excitement. I confess that but for the authority of such an observer as Rayer, or the support which my present view of this case receives from the opinion expressed by the eminent physician to whom I have previously alluded, that I had great difficulty in forming a satisfactory diagnosis of the nature and cause of the hæmaturia in this case. It is only after a very careful observation of the sum of the symptoms exhibited by the patient over a period of more than eighteen months, and observing during that period the strictly temporary morbid condition of the urine, the constant relation of this state of hæmaturia to mental emotion, that I came to the conclusion that the case might fairly be classed with those that Rayer has spoken of under the name of *hemorrhages renales essentielles (sporadique)*, and that we might attribute its exciting cause to the rare and exceptionable agency of mental excitement. I am very desirous of keeping this patient under observation, with a view of testing the soundness of the opinion and diagnosis brought before you in this lecture."

ART. 63.—*On the pathology of Mellituria.*

By Dr. GARROD, Physician to University College Hospital.

(*British Med. Journ.*, May 2, 1857.)

"As to diabetes being dependent, not upon any increased formation of saccharine matter, but on an imperfect destructive power existing

in the blood, although most of the phenomena are explainable on this hypothesis, still it is by no means satisfactory, as at present there is no proof of this absence of power to effect the ulterior changes. And certain facts, besides those which I have already brought forward, appear to militate against the existence of this deficiency; for there is no marked difference in temperature between diabetic and other subjects; and, in certain experiments made some years since by Professor Graham, no peculiarity was discovered in the amount of carbonic acid which they expire. Upon the whole, I should be disposed, at present, to regard diabetes as due, in the first place, to an increased formation of sugar by the liver, produced by some alteration of function in the organ; and at the same time that its glycogenic power becomes abnormally increased, I should consider that it loses the property, which exists in health, of arresting and changing into new principles (as fatty substances, &c.) those saccharine matters which are brought to it by means of the portal blood. If we view diabetes in this light, we shall, I believe, be able to explain all the phenomena which the disease presents; at the same time I am aware of no facts which can be brought forward in opposition to it. It explains, for example, why sugar can generally be detected in the urine of diabetic patients, when subjected to the most rigorous animal diet, and, at the same time, why amylaceous matters usually so greatly augment this saccharine impregnation."

ART. 64.—*On the Influence of Cerebral Maladies upon Saccharine Diabetes.* By M. E. LEUDET.

(*Gaz. Hebdom. de Méd. et Chir.*, March 13, 1857.)

CASE 1.—A woman, æt. 32, in the sixth month of her pregnancy, was attacked with loss of sight in the left eye, without any other paralytic symptom. This loss was accompanied by pains in the head and vomiting. Seven and a half months afterwards comatose symptoms came on suddenly, and went off gradually in the course of twenty-four hours. At this time there was paralysis of the third and fifth pair of nerves on the left side, with some softening of the corresponding cornea. There was complete loss of sensibility in the skin on the left side of the face, in the left nasal passage, and in the left half of the tongue. Along with these symptoms there was urgent thirst, and a considerable quantity of sugar in the urine. Iodide of potassium was given, and under its influence the vision improved, the diabetes disappeared, and the paralysed side of the face recovered its sensibility. After this the ulceration of the cornea progressed, and the humours of the eye were evacuated. Five months later, the comatose symptoms returned, without the diabetes.

CASE 2.—A woman, æt. 53, was attacked with hemiplegia in the right side, and with frequently recurring epileptiform attacks. Two years later, symptoms of diabetes were developed. A year later still, the sugar in the urine gave place to albumen, and the patient fell into a cachectic state.

CASE 3.—A woman, æt. 39, in the sixth month of her pregnancy, was attacked with convulsions and paraplegia. These symptoms continued for some time, and then gradually passed off, with the exception of occasional fits of giddiness. Six years later she became the subject of repeated haemorrhages,

which paved the way, first to dyspeptic symptoms, and then to saccharine diabetes.

CASE 4.—A woman, æt. 80, was attacked suddenly with hemiplegia on the left side. Eighteen months afterwards she began to suffer from thirst, and her urine was found to contain sugar. Last of all, her right foot became gangrenous, and she died.

These cases are not accompanied by any comment of importance, and they furnish no other particulars beyond those that we have given. The author refers to certain cases of a similar kind, which have been reported by Drs. Goolden, Rolasky, and others.

ART. 65.—*On the collateral Symptoms of Mellituria.*

By DR. GARROD, Physician to University College Hospital.

(*British Med. Journal*, April 11, 1857.)

To the question “are there any symptoms, saving the saccharine state of the urine, which can be regarded as pathognomonic?” Dr. Garrod answers, “I know of none upon which I should venture to rely. Certain phenomena, however, very generally exist; and these I will now briefly notice.

“Perhaps one of the most constant is a certain amount of œdema of the legs, which, in some instances, may be so slight as readily to escape detection, unless specially sought for. Since my attention was first directed to its frequent occurrence, I believe I have seen no patient, in whom the urine has been distinctly saccharine, where it was absent: in some cases, the amount is so slight that it appears to be little more than a loss of elasticity of the integuments over the tibia, but still it has been distinctly marked. In real diabetes, it often becomes very decided, and in the later stages considerable œdema and swelling of the legs not uncommonly ensue. The occurrence of slight œdema in cases where the renal secretion is augmented, is somewhat peculiar, and shows that it depends upon the morbid condition of the blood, and has no reference to the renal function.

“Another very common phenomenon is the appearance of some cutaneous eruption, or some affection of the subcutaneous cellular tissue. I have been consulted by several patients with such, and have discovered a saccharine condition of urine, evidently most closely connected with the skin-disease, in the relation of cause and effect. In the majority of cases, the eruption has been herpetic in character; now and then scaly; in some, pruriginous; in others, it has assumed the form of boils and carbuncles. From what I have hitherto observed, I am much inclined to think that these cutaneous affections are more marked in cases of saccharine urine unattended with diuresis, than where the urinary secretion is greatly augmented; as if, in these latter cases, there was less accumulation of sugar in the blood, on account of the establishment of free outlet by the kidneys. Dr. Prout had noticed this, for he makes the following remark: ‘Were I permitted to draw a general inference from my experience, I should say, that diabetes usually follows cutaneous affections, and accompanies (perhaps precedes) the affections of the cellular tissue. Thus I have

several times heard patients observe that they were formerly subject to eruptions in various parts of the body, but that such eruptions disappeared after the diabetic complaint became established; nor do I remember more than one instance in which diabetes actually accompanied a severe cutaneous affection.' Within the last few weeks, I had a patient under my care, suffering from diabetes, who exhibited from time to time a large ring of herpes circinatus upon the right cheek; and I am of opinion that there was some distinct connexion between the intensity of the skin affection and the amount of the renal secretion, one being in an inverse ratio to the other. Not many months since, I correctly diagnosed the presence of saccharine urine in a gentleman, mainly from finding that, without any very evident cause, he had been suffering for several years from a succession of herpetic eruptions in different parts of the body.

"Pruritus not unfrequently accompanies a saccharine condition of the blood; and several instances illustrating this fact have occurred in my own practice. There also very commonly exists in these patients a tendency to low forms of inflammation, a difficulty of healing parts when injured, and a liability to furuncular and carbuncular affections. In many of these cases, the tongue exhibits in some degree the characters we have before described. There is often increased thirst and dryness of the skin; and, although the patient may be quite unconscious of it, some augmentation of the urinary secretion; but this latter may be insufficient to cause any increased frequency of micturition, and hence pass unnoticed."

ART. 66.—*On Gangrene in connection with Mellituria.*
By (1) Dr. MARCHAL (de Calvi); and (2) Dr. GARROD.

1. (*Gaz. Hebd. de Méd. et Chir.*, Dec. 5, 1856.)
2. (*British Med. Journal*, April 18, 1857.)

1. At a recent meeting of the Academy of Medicine in Paris (2d December, 1856), M. Marchal related a third instance of gangrene which had supervened upon mellituria. The gangrene seized upon a wide space in the nape of the neck. The subject was a physician who was suffering from diabetes, but who was not aware of the fact.

2. Upon this connection between gangrene and diabetes, Dr. Garrod remarks, in his recent Gulstonian lectures—"I have in some few instances seen *gangrene* in connection with diabetes, and have no doubt that there is a close connection between the two affections, in the relation of cause and effect. In one case, a female, æt. 33, who appeared to have suffered from diabetes for some years, gangrene of one leg came on a few weeks before her death. This patient had also, during the last few days of her life, a purulent discharge from the right ear; and, on *post-mortem* examination, a considerable quantity of pus was found upon the membranes of the brain. Another and more interesting instance occurred in a gentleman, about 68 years old, who consulted me last year, and whom I found labouring under well-marked diabetic symptoms, with strongly saccharine urine. I ascertained from him that the disease had certainly been present for many

years; and that, about twenty months before I saw him, he had been laid up for several weeks with gangrene of the base of one toe; the cicatrix was still well marked. My patient was totally unable to account for the affection, for he had received no blow or injury upon the part."

ART. 67.—*On the prognosis of Mellituria.* By Dr. GARROD,
Physician to University College Hospital.

(*British Med. Journal*, April 18, 1857.)

"Diabetic patients *may* permanently recover. Several instances have been related; but those well authenticated are exceedingly few in number. I cannot say I have ever seen a diabetic patient, whom I have known to have been affected with the disease in a well-marked degree, suffering, for example, from the thirst, dryness of skin, and great diuresis, *permanently* lose all traces of sugar from the urine. I have, however, been assured by patients that they were formerly diabetic, and I have been unable, after repeated examinations, to find sugar in their urine. In many of the slighter cases, where the urine has been distinctly saccharine, and the patients have experienced symptoms doubtless arising from the morbid state of the blood, as the herpetic eruption, &c., I have seen the renal secretion become perfectly normal, and remain so as long as I have been able to keep the patients under my observation.

"From what we have now shown of the liability of diabetic patients to be affected by the occurrence of secondary affections, by shocks and injuries of various kinds, and from what we have stated as to the rarity of their ever completely getting rid of the disease, I fear we cannot fail to regard the prognosis as anything but favorable: but at the same time I am convinced that in many instances life can be greatly prolonged, so as to enable the patient to reach at least a moderate old age. To effect this, however, the strictest attention must be paid to diet and regimen, and the avoiding of great mental exertion and over fatigue of body."

* * * * *

"There is one point connected with the supervention of secondary diseases in diabetes to which I would wish particularly to draw attention, as it is apt, if passed over unnoticed, to be a fruitful source of error. I allude to the alteration which the urine often undergoes during these affections; it is not very uncommon to find a complete absence of sugar, a sign often regarded as favorable, generally, indeed, as a proof of the efficacy of some particular mode of treatment which a patient is pursuing at the time, but which is in fact too frequently a symptom of some secondary disease which may speedily terminate in death. I could quote many instances illustrative of this; one or two, perhaps, may not be without interest.

"A gentleman, about five years since, consulted me, having all the characteristic symptoms of diabetes; urine strongly saccharine; specific gravity 1040, &c. After a few months every trace of sugar suddenly disappeared; but this apparently good sign was only in-

duced by the rapid supervention of phthisis, of which he soon died. Within the last two months I had a patient in the hospital labouring under diabetes and phthisis in a somewhat advanced stage; and it was interesting to watch the increase and decrease of the diabetic symptoms (including the specific gravity of the urine), alternating in an inverse ratio with those of the tubercular affection.

"Lastly, I may mention the case of a lady who had suffered from diabetes for many months, but whose urine became perfectly free from sugar during, and for a short time after, a mild attack of scarlatina. The importance, then, of the knowledge of the disappearance of sugar under these circumstances cannot be too firmly insisted upon."

ART. 68.—*On the treatment of Mellituria.* By Dr. GARROD,
Physician to University College Hospital.

(*British Med. Journal*, May 16, 1857.)

"I consider," says Dr. Garrod, "attention to *diet* of the utmost importance; and, without this, I believe that other means are almost if not entirely useless. In certain stages of the disease, the diet is advantageous in proportion to its freedom from amylaceous or saccharine matters; the nearer it can be obtained free from these, the greater is the benefit likely to accrue to the patient. The nitrogenised matters should not be excessive in quantity, at the same time that due allowance must be made for the inability of the patient to assimilate amylaceous principles. In consequence of the appetite being generally above the healthy standard, and also to prevent the disgust which a rich animal diet is apt to produce, it is most desirable to introduce certain non-nutritive materials into the diet, which give bulk to the aliment, satisfy the hungry, and at the same time make the azotised and fatty matters more palatable and acceptable to the patient. To effect this, I know of nothing equal to the bran bread of Mr. Camplin. In addition to the bran or gluten bread, I consider that certain green vegetables, as water-cress, greens, and lettuces, may be advantageously allowed in small quantities; as a diet quite free from vegetables, if continued for any length of time, will inevitably lead to the production of scorbutic symptoms.

"The liquid portion of the diet should also be kept as low as possible; and diabetic patients often derive much comfort from holding small pieces of ice in their mouths, instead of drinking copious draughts of water. The washing out of the mouth also with cold water sometimes effects the same object. Alcoholic liquors should be used sparingly; perhaps the best is a little good bitter ale, or small quantities of pale brandy freely diluted.

"With regard to the administration of drugs, I believe that in many cases but little advantage is derived from them; if, however, the nervous system is irritable, small quantities of opium may be useful; if there is anæmia, iron preparations, as the metallic iron in the form of the *fer reduit*, or the ammonio-citrate or phosphate of iron should be administered; and if the skin remains harsh, ammonia

salts in small doses, combined or not with other remedies, as the warm bath. If the emaciation be great, or phthisis threaten, cod liver may likewise be used; for, although I have shown you that these drugs, when given in large doses, and for a limited period only, produce no sensible diminution of the saccharine secretion, yet we may regard it as a fact, that everything which leads to an improvement in the health, by removing any other abnormal state that may be present, tends, in the long run, to ameliorate the diabetic condition; hence great advantage is derived from change of air and scenery, relaxation from business, and other such hygienic means, especially the avoiding of cold east winds, the use of the flesh-brush, and warm clothing. I have said that in certain cases I believed that weak alkaline drinks, as the Vichy waters, or alkalies given in other forms, are occasionally of advantage, especially if the functions of the liver be disturbed or any amount of irritation of the stomach be present."

ART. 69.—*On a new mode of treatment in Saccharine Diabetes.*
By M. PIORRY.

(*Gaz. Hébdom. de Méd. et Chir.*, Feb. 17, 1857.)

M. Piorry is of opinion that sugar is indispensable to the maintenance of life (he finds this opinion upon the researches of MM. Dumas and Cl. Bernard), and on this account he thinks that diabetic patients ought to be supplied with sugar, and substances which are transformable into sugar, in order that they may repair that unnatural waste which is consequent upon their malady. With this view he has brought the following case before the French Academy of Medicine.

CASE.—The patient is only described as being under M. Piorry's care in La Charité (No. 19, Salle St. Anne), and as suffering from diabetes, with very copious secretion of sugar. All the viscera were sound, with the exception of some slight hypertrophy in the spleen. From the 2d to the 12th of January, ten litres of urine were passed daily. During this time certain feverish symptoms, which came on in the evening, subsided under the influence of quinine. On the 12th, the patient was directed to abstain as much as possible from all fluids, and to have daily a double quantity of meat, *with 125 grammes of sugar candy.* This treatment was persevered in on the following days, and the result was, that the quantity of urine fell to two and a half litres in the day—the specific gravity remaining the same, namely, 1·060. On the 2d of January, 500 grammes of sugar had been lost in the twenty-four hours; from the 12th to the 24th, notwithstanding the addition of the sugar-candy, the daily loss of sugar was not more than 135 grammes.

This case was referred to a commission, consisting of MM. Andral, Rayer, and Cl. Bernard; and in the mean time it is only baldly stated as we have given it.

**ART. 70.—On the mode of preparing the Bran-loaf for the use of
Diabetic Patients. By Mr. CAMPLIN.**

(*Medical Times and Gazette*, May 2, 1857.)

Since the publication of his paper on the 'Juvantia and Lædentia in Diabetes,' Mr. Camplin has made improvements in the preparation of this important dietetic agent. The present formula is as follows:

"Take a sufficient quantity (say two or three quarts), of wheat bran, boil it in two successive waters for ten minutes, each time straining it through a sieve, then wash it well with cold water (on the sieve), until the water runs off perfectly clear; squeeze the bran in a cloth as dry as you can, then spread it thinly on a dish, and place it in a slow oven; if put in at night, let it remain until the morning, when, if perfectly dry and crisp, it will be fit for grinding. The bran thus prepared must be ground in a fine mill,* and sifted through a wire sieve of sufficient fineness to require the use of a brush to pass it through; that which does not pass through at first, must be ground and sifted again, until the whole is soft and fine. Take of this bran-powder 3 ounces troy, 3 fresh eggs, $1\frac{1}{2}$ ounce of butter, rather less than half a pint of milk; mix the eggs with part of the milk, and warm the butter with the other portion; then stir the whole well together, adding a little nutmeg and ginger, or any other agreeable spice †. Immediately before putting into the oven, stir in first 35 grains of sesqui-carbonate of soda, and then 3 drams of dilute hydrochloric acid. The loaf thus prepared should be baked in a basin (previously well buttered), for about an hour or rather more.‡

"Biscuits may be prepared as above, omitting the soda and hydrochloric acid, and part of the milk, and making them of proper consistence for moulding into shape.

"If properly baked the loaves or biscuits will keep several days, but should always be kept in a dry place, and not be prepared in too large quantities at a time.

"I would refer your readers to the paper already alluded to, for the circumstances under which I was led to the use of this preparation, and I do this with the more confidence, as subsequent experience establishes the importance of the bran-loaf as a remedial agent, and confirms my general opinions on the treatment of diabetes."

Mr. Camplin adds: "If a proper mill for grinding the bran is obtained, it may be easily prepared;§ it is by no means unpalatable,

* The mill I use was made by Mr. White, of Holborn.

† The mixed spice sold in powder by the grocers answers very well, or a few caraway seeds bruised, where economy is an object.

‡ A specimen of the bran loaf thus prepared was exhibited at Dr. Garrod's lecture, and tasted by the physicians and medical practitioners present, who expressed themselves very strongly as to its pleasantness.

§ The grinding of the bran, which is the only part of the preparation requiring labour, might be performed in most of the hospital cases by the patients themselves.

and as it contains scarcely any starch,* it at once checks the formation of sugar, and arrests the whole train of morbid actions."

"The bran biscuit may be purchased of Mr. Smith, baker, of Gower-street North, and a bran-loaf or cake, nearly resembling the above, of Mr. Blatchley, confectioner, near the Pantheon, Oxford-street; both these parties prepare a biscuit or cake which answers well medically, but is not so agreeable as that prepared under my own direction. The difference is probably owing in a great measure to their not having hitherto used mills of sufficient fineness. I have reason to expect that they will henceforward remedy this defect."

ART. 71.—*A case of persistent Sarcina in the Urine.*

By Dr. J. W. BEGGIE, Physician to the Royal Infirmary, Edinburgh.

(*Edinburgh Medical Journal*, April, 1856.)

The observations in respect to the occurrence of the sarcina in this case may be stated as follows:

1st. *Its persistent presence*: In a period of little longer than two months, Dr. Begbie examined the urine on ten different occasions, and he always found the sarcina present.

2d. *Its being present in the fresh urine immediately after micturition*: an observation made on two separate occasions.

3d. *The sarcina being unaccompanied by torulæ*: as is generally the case in the vomited matters, the evidence of a fermentative change.

4th. *The sarcina being present in urine, the reaction of which, though acid, very speedily became neutral and alkaline.*

5th. *The sarcina being distinctly visible in its perfect form for many days after the urine became highly alkaline.*

CASE.—"On the 10th of November, 1856, my advice was requested by a gentleman about 60 years of age, of studious and somewhat sedentary habits, on account of the following symptoms. Severe lumbar pain, felt chiefly upon exertion being made, and for some time after meals, with a frequent desire to pass water, though the demands did not appear to arise from the quantity of urine discharged. This brief outline of the case was communicated to me by letter. As these symptoms appeared to arise from renal or vesical affection, I requested to make a careful examination of the urine.

"On the 12th, a specimen of the urine was sent to me for this purpose—it had been passed the same morning.

"On the 13th, I examined it at the Infirmary, in company with my friend and house-physician, Mr. William Hill. It was of pale straw colour, with a distinct mucous sediment; odour faintly urinous; of neutral reaction. Sp. gr. 1.025; depositing phosphates on the application of heat; not coagulable.

* Gluten bread, if prepared with care to wash away the starch, is excessively disagreeable, and cannot be persevered in for any length of time. The French gluten bread is not so disagreeable as that which I have had made at home, or which has been prepared for me by our best pharmaceutical chemists, but contains 20 per cent. of starch (according to Boucharlat), whilst a specimen of bran, prepared as here directed, was found by Dr. Marcey to contain only two and a half, and of course the whole loaf contains scarcely 1 per cent.

Under the microscope numerous sarcinæ, smaller in size, but otherwise precisely similar to the sarcina ventriculi, were at once detected; there were also present a considerable amount of epithelium, and a few small crystals of the ammoniaco-magnesian phosphate. The day after the examination of the urine was made, I saw the patient for the first time. He was of a stout, rather corpulent frame, and his appearance did not indicate failing health. He informed me that for many months he had been subject to various dyspeptic symptoms, including want of appetite, foul tongue, with unpleasant taste in the mouth, flatulency, uneasiness in the stomach after meals, and confined bowels. In addition to these, there had been urinary and nervous symptoms: the former comprehending the lumbar pain, and the frequent calls to void water, to which reference has already been made; the latter, some degree of despondency of spirits, and incapability at times for mental exertion. At an earlier period, symptoms of a more precise character, as regards the urinary organs, had been present. He had on one occasion suffered very suddenly and unexpectedly from retention of urine; the assistance of an eminent surgeon had then been sought, and the catheter passed. About the same time the bladder was sounded, under the impression that a calculus might exist. No stone was detected, but since then two small concretions had been passed along with the urine. Regarding the case as one of dyspepsia, connected with a tendency to phosphatic deposits in the urine, I endeavoured to enforce such attention to the ordinary rules of health, particularly as to diet, bodily and mental exercise, as we know to be so generally useful in such circumstances. For the regulation of the bowels, small doses of rhubarb and bi-carbonate of potash were prescribed; and I further ordered the use, firstly, of the diluted phosphoric, and then of the nitro-muriatic acid, in doses of twenty drops, thrice daily; the latter, not so much from the known effect of the continued administration of acids in causing the disappearance of phosphatic deposits, as on account of the general tonic virtues possessed by the combined acid.

"On the 22d, that is, in the course of ten days, I again saw the patient, and was pleased to receive a favorable account of his state. He felt a material improvement as regarded the dyspeptic symptoms; and though the uneasiness in the back and the frequent calls to micturate continued, he was by no means discouraged, and readily yielded to my desire that he should continue the plan of treatment prescribed.

"On the 21st, the day previously, I had the second opportunity of examining the urine: its condition and characters were exactly similar to what were found on the former occasion, the sarcina, in particular, being present in very considerable amount.

"On the 27th, I examined a specimen of the urine passed on the previous day. Colour pale straw, clear, with a small amount of white mucous sediment; odour faintly urinous; reaction neutral. Sp. gr. 1.028; phosphates deposited on the application of heat; not coagulable; no trace of sugar; presence of chlorides and sulphates determined. Urea existed in considerable amount. Under the microscope, sarcina, and crystals of the triple phosphate, as on former examinations.

"On the 10th of February, I examined a specimen of the urine of the 9th; the condition and characters were precisely the same as formerly, with the exception of the specific gravity, which was 1.026, instead of 1.028. On that day I saw the patient still suffering from the lumbar pain, though in less degree; but as regards his other ailments, decidedly relieved. On the same occasion I examined a specimen of the urine immediately after it was voided, and found it to contain the sarcinæ in as great number as when the urine had been kept for one or more days; the reaction of the urine, when thus examined,

was faintly acid, and it did not contain crystals of the triple phosphate. It does not appear to me necessary to make any further remarks at present in regard to the case itself, which, except from the occurrence of the sarcina, has no point of special interest; at the same time, the short detail of its nature and progress which I have given, seemed to be required."

ART. 72.—*Rupture of the Bladder from over-distension.*

By Mr. A. G. FIELD, of Brighton.

(*Medical Times and Gazette*, Dec. 13, 1856.)

Rupture of the bladder from over-distension, without the application of violence, is of extreme rarity. Rokitansky speaks of it as a very rare occurrence; and Sir B. Brodie mentions one such case in St. George's Hospital, and refers to but one other seen by Sir Everard Home.

CASE.—E. P.—, æt. 72, had for many years been the subject of enlarged prostate, with its usual accompanying ills. On the 30th of September I was requested to visit him, as he was suffering from retention of urine. I found the bladder much distended, and the urine dribbling away, what passed being highly offensive and thick, from admixture with mucus. There was considerable fever; tongue thickly coated, great pain and prostration. Stimulants and opiate enemata were given, and the bladder was frequently emptied by means of the catheter, under which treatment he rapidly improved.

October 2d.—He got possession of the catheter in my absence, and introduced it himself with tolerable ease; so that he continued the practice for two days; but on one occasion, having slept for a considerable time, when he awoke he found the bladder had become distended to a painful degree. This rendered him awkward in his hurried attempts to get speedy relief with the instrument, and he caused himself such excessive pain, by trying to force the catheter quickly into the bladder, that he positively refused to allow me to repeat the attempt on my visit in the evening. The serious consequences of his refusing submission to this necessary means of relief were plainly set before him, but he obstinately persisted, saying he would rather die than again endure such suffering as he knew would arise from the introduction of the catheter. He begged for laudanum, to ease him out of the world. This was denied him, in the hope that, if he continued to suffer pain, he might submit to the advice which was given him.

8th.—He was much depressed, pulse failing, countenance pale and shrunken, great pain and tenderness over the lower part of the abdomen, no tumour, as of distended bladder, nor marked dulness on percussion over the hypogastric region. I now at length persuaded him to submit to the introduction of the catheter under chloroform. A very small quantity of the anaesthetic sufficed to produce insensibility. When the instrument reached the prostate, it diverged to the right; on being slightly withdrawn, it was passed easily into the bladder, but not a drop of water escaped. This was repeated at three different times, and an attempt was made to draw out some through the catheter by means of a syringe, on the supposition that mucus might obstruct the eye of the catheter; and other means were resorted to, for the purpose of clearing the tube of any possible obstruction, but without any useful result. He died on the 10th of October, retaining consciousness to the last, and suffering considerable amount of pain till within an hour or two of his death. My friend, Mr. Bacon Phillips, kindly assisted me in making a post-mortem examination.

On opening the peritoneum, a large quantity of turbid brown fluid escaped, containing flakes of fibrin; there were, also, other evidences of peritonitis. The ureters were dilated, and the kidneys healthy. The bladder was removed for more careful examination. The prostate was enlarged to three or four times its usual size; and on opening the urethra, a false passage was seen running half an inch into the substance of the left lobe. The mucous coat of the bladder was generally highly vascular, presenting, besides, several deep red patches. The muscular coat was hypertrophied, and presented bold fasciculi on its inner surface. Near the middle of the superior fundus was an opening, through which a large sound passed easily into the cavity of the abdomen; the edges of this opening were smooth and rounded, as if a portion of the mucous membrane had been sacculated, and had afterwards given way; the peritoneal covering yielding at the same time, had allowed the urine to escape into the peritoneal cavity. There was no extravasation into the sub-serous cellular tissue, nor anywhere external to the peritoneum.

ART. 73.—*Veratria and Morphia in Incontinence of Urine.* By Dr. THOMAS KENNARD, Assistant-Physician to the Blackwell's Island Hospitals, New York.

(*American Journal of Medical Science, Jan., 1857.*)

"CASE 1.—Moses K—, æt. 28, white, engineer, native of New York, was admitted into the Penitentiary Hospital, Blackwell's Island, May 12th, 1856, suffering from delirium tremens, with apoplexy, followed by complete paralysis, which kept him in an insensible state for three weeks, during which time he had to be fed with a spoon. On recovering from this, he had no control over his sphincter muscles, discharging both faeces and urine involuntarily, for which he was treated during June and July without avail. On the 8th of August he was placed under my charge, when I ordered him to rub the perineum three times daily with the following ointment:

R Morphiæ Sulphatis, Veratria, &c gr. x;
Axungiæ, 3j. Ft. ung.

This treatment was continued three days, when no further inconvenience was experienced, and the control over the sphincters was as perfect as ever before.

"CASE 2.—John K—, æt. 80, native of New York, was admitted to the hospital at the Almshouse, Blackwell's Island, on the 20th of September, 1856, for contusion from a fall. On examining him, and finding his clothes wet, I learned that he had had no control of his sphincter vesicæ for eight years, and was wholly unable to prevent involuntary discharges. Being unable to assign a positive reason for his state, I ordered him to rub the morphia and veratria ointment on the perineum three times daily, and in one week from commencing its use no further trouble was experienced.

"CASE 3.—John F—, æt. 56, native of Ireland, labourer, was admitted into the Almshouse Hospital, September 15th, suffering from paraplegia of four years' standing, two years of which time he has had no control over his bladder, but passed his urine involuntarily. I ordered the one-fifteenth of a grain of strychnia twice daily for the paralysis, and to rub the perineum three times daily with the morphia and veratria ointment. Two weeks from this time he was cured of the incontinence of urine, and went on rapidly improving till the end of a month, when he was discharged nearly well.

ART. 74.—*Lead in the Urine in cases of Lead-poisoning.*
By Dr. SIEVEKING, Assistant-Physician to St. Mary's Hospital.

(*Medical Times and Gazette*, Feb. 14, 1857.)

"The masterly memoir of M. Melsens on the treatment of metallic poisoning by iodide of potassium has caused this preparation to be more generally employed for the purpose of eliminating metallic poisons that have combined with the tissues of the body. The views promulgated by M. Melsens were supported by strong experimental and clinical evidence, and so far as my opportunities of witnessing and treating cases of metallic poisoning have since enabled me to judge, I should be disposed fully to corroborate the remarks of M. Melsens with regard to the eliminative power of the iodide of potassium in these cases. I have, in fact, in numerous cases of lead-poisoning, to which I may take another opportunity of advertizing more fully, found that the iodide of potassium sufficed for the cure of the patient. Dr. Parkes, since the publication of the memoir of M. Melsens, has published a paper on the elimination of lead by iodide of potassium, in which he filled up a lacuna left in the memoir, by giving the proof, that during the administration of this remedy the lead actually passed off by the kidneys. The following may be offered as a further corroboration of the fact that the lead is eliminated by this channel. It were well if we were able to demonstrate with equal certainty the mode in which organic poisons are eliminated by iodide of potassium, than which we possess no more certain and trustworthy alterative."

CASE.—A plumber, æt. 34, was admitted into St. Mary's Hospital, under the care of Dr. Chambers, on the 7th January, 1857. He had had colic three or four times previously, but had experienced no symptoms of saturnine paralysis. On the 7th of January he was suddenly attacked with epileptic fits. He had a succession of fits, which lasted for thirty-six hours. When I saw him on the 14th of January, he stated that he had no recollection of anything that happened from the time of his admission into the hospital to the 12th of January; that he woke up with severe headache occupying the entire head, with vertigo, and found that he had lost the power of moving the left leg and the right arm; the left arm and the right leg continued normal both in regard to sensation and motion. There was decided diminution of sensation in the affected limbs, and the right hand was in a permanent semi-flexed condition, with very little power remaining of opening or closing the fingers. On first recovering consciousness, the people in the ward seemed to him as small as dolls, and the opposite side of the room seemed to be sunk forty feet below his own level. These erroneous impressions he was conscious of at the time, and they disappeared in four days. The urine was very scanty. There was a marked blue line round the margin of the upper and lower gums. I would remark that on testing the sensibility of both hands with an æsthesiometer, (an instrument which I have had constructed for the purpose of measuring the amount of sensibility in different parts of the body,) I found no deviation from the normal standard on the 16th of January, as the patient was able, with the tips of the fingers of either hand, to distinguish a distance of less than one tenth of an inch; at the same time that the patient, when I first saw him, complained of want of sensation in two of the limbs, the same limbs were very tender, and a slight pinch caused pain, so that we had to deal

with that singular perversion of the sensitive function to which the term anæsthesia dolorosa has been applied, though without regard to the etymology of the words. This susceptibility to pain remained after the ordinary tactile sensibility appeared to be restored. My friend Dr. Markham, who had charge of the patients of Dr. Chambers, kindly, at my request, prescribed, on the 10th of January, the iodide of potassium in ten-grain doses, three times a day. A rapid improvement was perceptible. The amount of urine rapidly increased; but, although on two occasions after commencing the iodide of potassium the urine of at least twelve hours was tested for lead, none was found.

"The fact that Dr. Bernays himself, the able clinical lecturer at St. Mary's Hospital, kindly charged himself with these analyses, will be a sufficient guarantee that no lead was present. I again ordered the urine to be collected from the 20th to the 21st of January, and although probably only about one half of the urine secreted had been preserved, owing to the remainder having been discharged in defecation, I obtained 860 cubic centimeters, of a reddish-yellow hue, and turbid. This was evaporated down nearly to dryness; I boiled the residue with nitro-hydrochloric acid, and filtered. The filtrate, on the addition of sulphide of ammonium or of sulphuretted hydrogen, gave a copious precipitate of the sulphuret of lead."

ART. 75.—*On the treatment of Pertes Séminales.*
By Dr. TROUSSEAU, Physician to the Hôtel Dieu, Paris.

(*Charleston Med. Journal and Review, Sept., 1856*)

"In 1825," says M. Troussseau in a recent clinical lecture, "at which time I was interne at the *Maison Royale* of Charenton, Dr. Bleynie, adjunct physician of the establishment, spoke to me of one of his patients affected with impotence, who, seduced by the deceptive advertisements on the fourth page of the newspapers, had consulted a quack who cured him by introducing into the anus a sort of plug of box-wood which he made him wear. It struck me to be some trumpery manœuvre to excite the exhausted sense, or some lascivious resort like those of worn-out libertines in certain circumstances, and I took no more notice of it. Ten years later, in 1835, I had some little business with a young man twenty-six years of age, troubled with decided frigidity, and yet having an irresistible desire to marry. Seeing him plunged in profound melancholy, and learning that he seriously contemplated suicide, I sought in every possible way to relieve him. Then was recalled the remarkable cure mentioned by Dr. Bleynie. Immediately I contrived a kind of plug, and prescribed it to be worn in the anus, keeping it in position by means of bandages. Scarcely a fortnight had elapsed before several erections had appeared, and the seminal losses had become less frequent. My patient got married, and was fully competent to the discharge of the conjugal duty; he is living yet, and is by no means impotent.

"I sought to understand the rationale of this remedy, and was soon convinced that the charlatan had employed a means, the true scope of which he was far from comprehending, like M. Jourdain, who made prose without knowing it. In fact the plug, pressing necessarily and

immediately upon the prostate and the ejaculatory vessels, hindered the spasmoid seminal losses.

" Since that time I have witnessed many patients affected in the same manner, and as I grow older I witness more of them, for one does not generally go to a young physician with a complaint regarded as disgraceful, but rather to an old practitioner who is supposed to be more indulgent towards these cases. The same remedy has often been by me successfully used.

" Something after the fashion of the apparatus used to sustain haemorrhoids, I had prepared an elastic band furnished with a metallic branch, very slight and elastic, at the end of which was fixed a truncated cone of ivory penetrating into the rectum and supported in front by two attached pieces connected with the band. This cone was arranged in a very solid manner: it did not incommodate the wearer much because of the great elasticity of all its parts. Besides, if the anus became chafed, I covered the ivory with caoutchouc.

" Subsequently I endeavoured to improve the apparatus and to modify in some manner the form of the cone. M. Mathieu, a surgical-instrument-maker, then conceived a sort of plug shaped like a lengthened olive; this was a considerable improvement, but afterwards M. Mathieu thought it possible to do without the bandage around the body, and to fix the plug or stopper without the assistance of bands. Hence he gave to the plug a sort of hour-glass contraction, around which the sphincter ani closed strongly, and the large portion without kept the instrument in the proper position. An opening was made through its longest diameter which allowed the free exit of gas. The plug, retained in this manner in the rectum, presses upon the prostate and on the seminal vesicles, and this very often suffices, after a week or two, to check involuntary spermatic discharges, to restore to an impotent man his former virile aptitudes, and to prevent uncomfortable accidents to the moral and intellectual faculties.

" I would recommend this little apparatus, not only in cases of involuntary seminal losses, but also for nocturnal incontinence of urine. By employing these means, I have often seen the bladder restored to its normal tone, and have witnessed the cure of one of the most inconvenient and unclean diseases. It is scarcely necessary to observe that this plug cannot be applied to girls. In their case, in incontinence of urine, it might perhaps be introduced into the vagina at the same time that a small plug was adjusted in the urinary meatus; but you will readily perceive that you must resort to that only in the *last extremity*, when belladonna, and all other available therapeutic resources have failed; for the defloration of a young girl is always a serious thing, and a physician should assume that responsibility only when he has exhausted all other scientific means.

" I have frequently known my colleagues in consultations prescribe cold hip-baths, but I always prescribe myself very hot ones. I tell my patients besides, 'heat, to a degree which the hand can scarcely bear, four or five pounds of fine sand in a dish; tie it up tightly in a napkin and apply it to the anus, the perineum, the scrotum, and the penis; keep it there a half-an-hour or so until cool, and do the same to-morrow on getting up.' I do not know a more

energetic antiphlogistic than caloric, nor a more severe irritant than cold. Put your left hand into warm water and your right into cold water; the former will be chilly all day, while the latter will be warm. When heat is applied for any length of time to a particular part of the body it gives rise to a reaction.

"Thus sea-bathing is a powerful means of producing derivation towards the skin, and continued warm-baths are potent agents in extinguishing its exaggerated sensibility. Physicians devoted exclusively to cutaneous affections, attack an eczema of the face by warm shower-baths repeated for two months. They put caloric in contact with the face, cold water causing eczema, which hydropathy proves conclusively.

"The action of caloric is coercive, antiphlogistic; the action of cold is phlogistic and fluxionary. This fact is conspicuously inscribed on the records of hygiene. Have the cook, the pastry-cook, and the baker, who pass several hours a day before ovens heated to 160°, red faces? While actually before the fire they may have, but do they afterwards? Have the workmen who pour out melted ore, or who hammer red-hot iron, a very high colour? On the contrary, when away from the heat they are pale and sallow. Fluxion succeeds defluxion.

"Observe then that it is not in a contradictory spirit that I would substitute warm for cold, but because there are really strong motives for so doing. In general, whenever I hear of any remedy, I trouble myself very little as to the source whence it comes, I revolve it about in my mind and endeavour to comprehend it. If it appears to me good and useful I apply it, and should it succeed I recommend it. It matters little whether it comes from a quack or not if it is really worth anything. I may have for the originator the most profound contempt, but nevertheless I apply the idea for the good of my fellow-men.

"A very worthy physician, Dr. Lebatard, was very much surprised some time ago to see all his patients troubled with sprains getting well under the treatment of a certain individual. He obtained information of the process used, and accordingly, putting it into practice, he kneaded or compressed the foot until the swelling entirely disappeared, and the patient was cured. M. Lebatard, being an honest practitioner, published the fact. This I call doing a useful thing.

"Returning then to the use of caloric in the treatment of seminal losses, I repeat that when this agent is applied for any length of time on a part of the body, it gives rise to a reaction. The spermatic emissions may perhaps, under its influence, be augmented for the first and second night, but they afterwards rapidly diminish and the erections become more and more firm. The compressing apparatus and caloric are then to be used conjointly with the means recommended by Professor Lallemand.

"When the seminal losses are produced by relaxation, and you are assured that there exists no calculous affection, you must have recourse to cold baths and to a hydro-therapeutic *régime*. This state is diametrically opposed to the preceding, and it is not astonishing that an entirely different treatment should succeed. You may prescribe *nux vomica* internally, and apply the little compressing apparatus,

&c. After very frequent spermatic losses, there may occur nervous disorders so serious as to endure even after the cure of the local affection, their proximate cause. This is an unfortunate complication, and you will have to consult those who have made these diseases—these monomanias with hypochondria, and inclination to suicide, these paraplegias and general paralysis—their special study.

“Should you devote your whole attention to the treatment of seminal losses, you would soon find yourself able to relieve nearly all, and even to cure the majority of cases. But be on your guard against those patients who are very rapidly cured, who set up too soon the cry of victory, and who entertain you about their recovered energies and their well-tested prowess: for those who have once suffered from involuntary seminal discharges always run great risks, and if they are not careful, sooner or later, may come the renewal of the infirmities which I have mentioned. In such case you will do well to make your patients take preventively the same medicine which may have succeeded at first, and to continue it for a fortnight two or three times a year. ‘*Prudence*,’ says the proverb, ‘*is the mother of safety.*’”

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 76.—*On Contagious Furunculoid.* By Dr. LAYCOCK, Professor of the Practice of Medicine in the University of Edinburgh.

(*Edinburgh Medical Journal*, Oct., 1856.)

In this lecture Professor Laycock says he was the first to point out that boils were ever epidemic, and that they were associated, as to cause, with other eruptive diseases. This he did in a clinical lecture delivered at York, in February, 1851, and published at the time. At the same time he laid much stress on the contagiousness of this affection. He now adduces some interesting facts in relation to these points—observing that up to 1851 the epidemical relation of the *materies morbi* to malignant pustule, phlegmon, and onychia, had not been manifested. Dr. Laycock proceeds:

“In my published lecture of February 25th, 1851, I illustrated several varieties of the disease by cases, and indicated the following principal forms: 1. Simple furuncle. 2. Effusive inflammation of the derma, manifested in the form of eczema, pemphigus, and phlyctenæ. 3. Suppurative inflammation of the derma, resembling impetigo and ecthyma. 4. Carbuncular inflammation. 5. Two or more of these occurring coincidentally. More recent observation shows that we may add to these—6. Sloughing gangrene of the lip, eye, tongue, vagina, scrotum, &c. 7. A diffused inflammation of the cellular tissue, returned to the registrars, as a cause of death of late years, under the term phlegmon. 8. Another form, seldom fatal, that of whitlow. I will now refer to each of these specially.

“1. *Simple furuncle.*—The course of the simple furuncle is very definite. An itching is usually first experienced, and then a small hard pimple may be felt in the skin, not larger commonly than a small

pea. This enlarges from day to day, and the skin becomes red over it. About the fourth day the centre softens, and on the fifth suppuration is established, with partial destruction of the subcutaneous cellular tissue (the slough or "core"). By the seventh day there is commencing cicatrization. Rarely more than four or five of these occur at once.

"2. *The furuncle, with vesication or pemphigus.*—In the furuncle with vesication, the inflammation is preceded by a vesicle; the pruritus is greater, the erysipelatous redness more extended, and, in bad cases, true phlyctenæ form. These may be prolonged to the fourteenth day. In a few rarely occurring cases there is a phlyctæna only.

"3. *Ecthyma.*—In the impetiginous and ecthymatous form, the boils are usually interspersed with ecthyma, impetigo, or eczema. It is not uncommon to find this variety preceded by a pemphigoid eruption, in which the serum is opaque and purulent, and terminating in crusts. This sometimes attacks the eye, constituting a stye.

"4. *The carbuncular form.*—When the disease is carbuncular, it may appear as true carbuncle, or as a spurious form, in which there is, in fact, a confluence or blending of furuncles. Both these are usually seen on the nucha, back, or loins. The true carbuncle may be either solitary, or, as is common, may arise amongst a number of furuncles.

"The eruption in all these forms is usually seen on the back, nates, thighs—less frequently on the legs and face, still less so on the trunk. The bend of the joints, or the ends of the fingers (as in whitlow), are not unusual situations. The seat of the disease will, however, depend upon the nature and locality of the exciting cause. Wherever a local irritation is induced, there will most probably be the seat of the specific inflammation. A blister is one of the commonest of the exciting causes; the application of a poultice, or of an irritant ointment, a slight blow, and the like, will also act as exciting causes of the disease. A crop of boils is a not unfrequent occurrence after an eruptive fever, as variola, scarlatina, the 'dengue,' &c. In these cases the cutaneous inflammation operates as an exciting cause, in the same way as the inflammation consequent upon a blister.

"The accompanying constitutional disturbance varies much. In healthy individuals it is not at all well marked—in the cachectic the tongue is usually coated, sometimes brown, the appetite impaired, the bowels constipated; occasionally rigors and febrile reaction are manifested, and great debility felt. This disease became prevalent in the clinical wards of the Royal Infirmary of Edinburgh during June, July, and August last, subsequently to the admission of a Dane, resident in Leith for nine months, who was affected with the pemphigoid and impetiginous form. In him it appeared principally over the sacrum, as a vesicle, followed by a superficial ulceration, surrounded by an inflamed areola, and covered by a thick crust. Interspersed amongst these were isolated pustules, with an indurated inflamed base. Under the use of quinine, with mineral acids and warm baths, the pemphigoid characteristic disappeared, but the impetiginoid furunculi were more numerous and larger. Unfortunately, other patients in the ward used the same bath in which this patient bathed, and when some of the crusts from his body (it was reported) were floating upon

the water. Several of these were attacked with the same furunculoid eruption. The following history illustrates the origin and varied forms of the disease: on the 3d June, George Stewart, Ward xi, had a blister applied between his shoulders, which ran the usual course. On 11th June he complained of pain in the seat of the blister, and on examination it was found that a number of pustules, with an indurated base, had appeared there, principally upon the upper and right edges of the space which the blister had occupied. They varied in size from a pin's head to a fourpenny-piece; some got no larger, but others increased in size, and supplicated, so that a whitish tenacious fluid could be squeezed from them. On the evening of the 16th June a large poultice was applied; next day blebs, like those seen on the Dane, were observed to be intermingled among the furuncles, containing an opaque purulent fluid, while near the angle of the right scapula, one of the furuncles was fully an inch in diameter. This at last became a large carbuncle, about three inches in diameter, containing the usual sloughy tissue. Another large boil also showed itself on the back, lower down, which, on being incised, was found to contain blood only. The treatment ordered in this case was the water-dressing to each separate boil, the careful removal of their contents, and the most sedulous attention to cleanliness. The result was a check to any further formation of furunculi.

"5. *The phlegmonous, phagedænic, and gangrenous forms.*—These seem to occur in individuals who, from some pre-existent morbid state of the blood and of the nutrient forces, are already in such a condition that the ordinary sloughing inflammation of the phlyctena, furuncle, or carbuncle, becomes exaggerated into rapid death of the tissue. The lip and vagina in children are specially prone to become the seat of phagedænic inflammation, not unlike hospital gangrene; more rarely, the scrotum and perinæum in the aged. The late Mr. Harvey Ludlow (when house-surgeon to St. Bartholomew's) called the attention of the profession, in 1852, more particularly to carbuncular inflammation of the lips and other parts of the face; Mr. Stanley and Mr. Lloyd have also observed the affection, and noted its alliance to carbuncular and furuncular inflammation. Happily, these cases are comparatively rare, for the destruction of the tissues is frightful as to extent and character.

"6. *Onychia or whitlow, and suppurative inflammation of the fingers and palms, and the palmar and digital sheaths of tendons.*—These forms seem to be of rarer occurrence in the United Kingdom than in the United States and on the Continent. They are not unfrequently followed by contractions of the fingers, caries, &c. They are probably due to circumstances which bring the poison into immediate contact with the hand and fingers. I shall shortly adduce facts in illustration of this view. Dr. Hamilton Kinglake, of Taunton, has specially recorded the prevalence of whitlow in Somersetshire, in conjunction with boils and carbuncles.

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"Before entering upon the etiology, it will be useful to examine the pathological anatomy of the disease. It is primarily an inflammation of the derma and of the subjacent cellular tissue, ending variously, in

accordance with varying conditions. When it attacks the surface of the derma, effusion of serum, of a sero-purulent fluid or of a bloody ichor, is the result; when it attacks the derma proper, the various forms of furuncle, carbuncle, or anthrax occur. It is an almost universally accepted theory, that the 'core' of the suppurating tumour known by these names consists of sloughing cellular tissue, combined with exudative deposit; and that the slough is consequent upon strangulation of the blood-vessels of the part by the distended and resisting tissues that surround them. There are various reasons for adopting this theory, if it were only necessary to explain the simple furuncular or carbuncular form of the disease. For example, it is in accordance with the theory that carbuncles and large furuncles are the most prevalent in those portions of the surface where the skin is the most dense, as the neck, back, nates. It is also in accordance with the theory, that the sloughing should be most extensive in those individuals in whom the vital energy is feeble, and a cachectic state is present which predisposes to inflammation of an asthenic type, such as that complicating nephria. But there are various phenomena which the theory does not explain. It does not explain the more diffuse inflammation and suppuration of the cellular tissue known as *phlegmon*, or that gangrenous form which attacks portions of the skin not at all dense, as the lip, vagina, and scrotum; and above all, it gives no explanation of that rapid and fatal gangrenous form of carbuncle known as the pestis carbuncularis of horned cattle, and which, when that disease is communicated to man, is *charbon* or the malignant pustule.

"These residual phenomena point, therefore, to another cause of the characteristic inflammation. This is probably a specific and communicable *materies morbi*, the operation of which, upon the living tissues, is to devitalize them. Experience and observation as to the spread of the epidemic, have convinced me that this doctrine is so important an element in the etiology, that without it we have in fact no trustworthy clue to the pathology and treatment.

"I have observed that the *materies morbi* of the contagious furunculoid is communicable—1, from one individual to another; 2, from one portion of the skin to another portion, in the same individual; and 3, that if this communication be thoroughly prevented, the progress of the disease in a family or in an individual is arrested.

"I have already mentioned examples of the probable communication of the disease from one individual to another, as having occurred in the clinical wards of the Royal Infirmary of Edinburgh. In a similar way, it has been repeatedly observed to spread through families, schools, asylums, &c., where no precautions have been taken to prevent contagion. In such examples, it will usually be found that the affection, although slow in its progress through the population, attacks equally in succession the strong and the feeble, going on unmodified by diet, temperature, seasons, &c. Often, on inquiry, it will be found that the members of a family have had the disease subsequently to the admission into the family circle of a person affected with it. And, inasmuch as no other reason can be assigned for its spread, which shall with equal comprehensiveness explain it (all theories as to peculiar atmospheric conditions, peculiarities of diet, &c.,

proving insufficient), it is a reasonable and philosophical conclusion, that it is communicated from person to person.

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"The recent furuncular epidemic appears to have been generally prevalent throughout the world—certainly in the European and American continents, throughout the United Kingdom, and in all the British colonies. In England and the United States its appearance has been coincident with various epidemics. Typhus, influenza, cholera, smallpox, scarlatina, measles, hooping-cough, and croup, were epidemic in London, in successive years, coincidentally with a largely increased mortality from phlegmon and carbuncle. In the years of the maximum mortality—namely, 1853 and 1854, the prevailing epidemics were cholera, scarlatina, measles, hooping-cough, and croup.

"In the summer of 1850, boils were widely epidemic throughout the United States; they were described as being 'almost universal,' and carbuncles as being common. The epidemic was co-extensive with a lichenous febrile eruption, termed 'prickly heat,' and with the 'dengue'—an eruptive fever, having points of similarity with both influenza and scarlatina. In this epidemic the furuncular eruption was often a substitute for the ordinary cutaneous inflammation.

"The etiology of the ordinary, sporadic form of the cutaneous inflammations I have considered, does not throw much light upon the etiology of the epidemic. The recognised pathology of boils is, I am inclined to think, in a great degree erroneous; it is certainly a fallacy that they are depurative. Those which occasionally supervene in persons undergoing a rigid course of hydriatics, are usually mentioned as illustrations of this theory; but it appears just as reasonable a conclusion that the copious imbibition of water induces such a cachectic state as constitutes a highly predisposing cause of this peculiar form of inflammation. I certainly think that a patient is free from a fertile source of depressing irritation when he is free from them, and that if they occur, the sooner they are cured the better. One great fact, however, stands out distinctly, the severe forms of furunculoid are constantly associated with cachectic states."

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Dr. Laycock adds in conclusion: "I have already indicated some of the sources of the *materies morbi*, but it is certain, I think, that these are not all. The local inflammation is of a kind induced by various septic poisons. Of these, that which appears to be generated during a severe and prolonged parturition, is one; probably the poison of puerperal fever is another, and of the Levant plague another. It remains to be determined whether the variolous poison may not, under certain circumstances, be the *materies morbi*; it may be equally a question whether the flesh of animals, dead of dysentery, typhus, pleuro-pneumonia, &c., may not, when used even as food, be a means of communicating the disease. As to all these points, there are analogies in the natural history and behaviour of epidemical and communicable fever-poisons, such as to warrant cautious and careful inquiry."

ART. 77.—*On Circumscribed Atrophy of the Skin.* By Dr. REUSS.

(Vierordt's Archiv, Ht. 4, 1856; and Med.-Chir. Review, April, 1857.)

Dr. Reuss reports two cases of a disease of which he states he has found no description in authors, and which appears to be almost identical in its characters with what we ourselves witnessed in April, 1856, in a young woman.

A lad, æt. 15, at the end of 1855 had typhus, and while at its acme several parts of the skin were observed to undergo a peculiar change. They assumed a reddish-blue or reddish-brown colour; under a slanting light appeared whitish, of an asbestine or satiny gloss, and sharply cut off from the surrounding skin. They formed elongated streaks of half an inch to three inches in length, and were from one to four lines broad, and were all directed vertically or obliquely to the axis of the body. They were symmetrically arranged in both lower extremities below the trochanter major, above the patella, above the internal condyle of the femur, and across the outer side of the leg; altogether there were from twenty to thirty such streaks on each leg. The affected parts were sunk below the level of the surrounding skin; and when pressed, the bluish colour disappeared, and one could see the blood return into the subjacent dilated capillaries. The sensibility of the parts was diminished. Three months later, the appearances had somewhat faded, but were essentially the same. The second case resembled the last, but was not so well marked: it occurred in a young woman, aged twenty-eight. The one we ourselves observed occurred in a servant girl, aged twenty-nine, who, after suffering from some severe abscesses, found that small white spots formed on the left side of the neck, extending from the sternum over the clavicle towards the spine—like zoster. The spots were sharply defined, very smooth, and bloodless; and looked as if the sub-epidermic tissue had been punched out. There had never been any elevation of the tissues or secretion. The outline was generally circular; or, where two or more spots had coalesced, the outline became oval. They varied in size from the point of a pin to a split pea. There was a small patch of similar white spots on the right hypochondrium. Her general health, at the time we saw her, was good.

Like Dr. Reuss, we failed at the time in meeting with anything analogous in works on skin diseases. In the fourth edition of Mr. Wilson's work 'On Diseases of the Skin' (p. 378), which has just appeared, the affection is described under the name of *Morpheæ Alba*.

ART. 78.—*On the "Tache Meningitique."* By Dr. BAINES.

(Medical Times and Gazette, Dec. 6, 1856.)

Dr. Baines states that he had first become acquainted with this morbid phenomenon during his visits to the Hôpital Necker of Paris. Dr. Troussseau was wont to draw the attention of his pupils to the occurrence of a red mark or stain which was readily observable on the

skin of a large number of hydrocephalic children; to this he gave the name of the *Tache Meningitique* or *Tache Cérébrale*.

Dr. Baines then proceeds to describe it as of a reddish colour, varying from a faint tinge to a more vivid raspberry hue; in some cases it has been so distinctly developed and so readily excited, that the patient's friends have drawn attention to it. Its development may be the result of accident, as when occasioned by the pressure or irritation of the bed-clothes, or portions of the child's dress, and in those cases, it is chiefly observable on the face or neck; but it is more commonly intentionally caused, as by the pressure of the finger of the observer on the skin of the patient; when such is the case, a distinct red line marks the previous course of the finger. It is more readily observable in the face, neck, and chest, than on the extremities, and will often fail to be excited in the latter parts when it is most distinct in the former; rarely, however, the reverse is the case. Though most commonly seen in patients suffering from hydrocephalus, it is said to be observed in other cases, and Dr. Baines mentions one case of acute congestion of the brain, and another of acute pneumonia of children, in both of which this *Tache* was mentioned as existing during life; but in the latter case, though the brain was healthy after death, the child had died from convulsions. As to the stage of the disease in which it is most commonly found, the author thinks, from his observations, that it was more likely to be seen late in the disease, and he suggests that perhaps it might have reference to the stage of effusion. With regard to its cause, in the present state of our knowledge of its nature, he could scarcely offer any sufficient explanation. He thinks that it could hardly be dependent upon simple atonic relaxation of the capillaries, as occurring in exhausting diseases, because it had been observed in acute congestion of the brain, and in acute pneumonia complicated with convulsions, but suggested that it was due to some altered relation between the supply of nervous power to the capillaries and the circulation, allowing of a ready dilatation of the superficial vessels when any irritation was applied to the skin. Several cases verified by post-mortem appearances are narrated, in which the *Tache* was a prominent symptom. In one it was absent altogether, and in another case which recovered, it continued as long as the symptoms of the disease continued, and then declined with them. It has been noticed also, as proved by the cases cited, though not necessarily in all such, in head cases dependent upon the irritation of teething and from worms, but what was of some practical value was the fact of its absence in cases of gastric and remittent fever of children, in which the most urgent and prominent symptoms were referred to the head. These remarks are supported by the cases quoted.

ART. 79.—*On the prevention of Pitting in Smallpox.*

By Dr. ALEX. ROWARD, Physician to the Marine Hospital, Quebec.

(*Medical Times and Gazette*, Dec. 13, 1856.)

Dr. Roward's plan is to apply a strong solution of nitrate of silver ($\frac{3}{2}$ to the $\frac{3}{2}$), and he recommends it, not only on the ground of pre-

venting disfigurement, but as tending, when applied to the face, to lessen the danger of cerebral complications by diminishing the intense inflammatory action on and in the exterior.

CASE.—John Henry S—, lumberman, æt. 20, well proportioned and athletic, was admitted under my care, at the Marine and Emigrant Hospital, Quebec, on the 23d of April, 1856. Three days after admission an eruption of smallpox made its appearance, which soon became confluent. Three days after the eruption presented itself I applied a solution of nitrate of silver all over the face, of the strength of one drachm of the salt to an ounce of water, which was much stronger than I had heard of having ever been employed before.

The patient experienced a grateful sense of cooling from the application, which also relieved the distressing itching and tension from which he suffered; and he begged earnestly to have the wash again applied. The practice was pursued daily till the 13th of May, when it was discontinued. The blackened cuticle now began to peel off, leaving the face perfectly free from pitting, while the hands, in which the disease had been purposely allowed to follow its course, were deeply and numerously scarred.

Other striking beneficial effects were observed to follow the use of this strong solution besides the prevention of pitting. The inflammation about the face and head became diminished, and the itching and heat were lessened, while the application caused no pain, gave rise to no disagreeable odour, and was not followed by any secondary fever. The patient recovered completely from the disease, and is now a servant in the hospital.

"In addition to the above advantage," Dr. Roward says, "I believe an important step is attained towards the patient's safety by so materially diminishing the intense inflammatory action about the head and in such close proximity to the brain; and I am so strongly impressed with its utility in this respect, that I shall apply it not only to the face, but all over the scalp, in all future cases."

"Having every reason to be gratified with the result of treatment in the foregoing case, I mentioned the circumstance to my friend Captain Reeve, the Commandant at Grosse Isle Quarantine Station, and strongly urged him to recommend a trial of the same plan in the Quarantine Hospital when an opportunity should occur. He did so, and it was accordingly tested in four cases during the following months of June and July, with the most satisfactory results.

"These cases have been reported in the October number of the 'Montreal Medical Chronicle,' by Dr. Von Iffland, Assistant-Physician at Grosse Isle; and I have received letters from that gentleman and from Captain Reeve and Dr. G. Douglas, the Medical Superintendent of the Station, acknowledging that it was from me they obtained the first idea as to the utility of a strong solution of nitrate of silver, in the ectrotic treatment of smallpox.

"I am well aware that weak solutions of the same salt have been recommended, but from their weakness they proved irritating and inefficient, and have consequently been abandoned. The solid stick of caustic has been applied to each punctured vesicle; but this process was found to be painful and tedious, and in confluent cases almost impracticable. None of these objections apply to the strong solution of one drachm to the ounce of water. Its application is free from

pain, it has been proved to be highly efficacious, and its employment can be intrusted to a common nurse or attendant on the patient.

"Moreover, I would recommend its application to the mouth and fauces. I do not, however, recommend its application to the cornea when attacked with the smallpox pustule, as that organ demands special and separate treatment from the surgeon."

ART. 80.—*On the Secondary Eruption following Vaccination.*
By Mr. Ross.

(*Lancet*, Feb. 14, 1857.)

The propositions which Mr. Ross endeavours to establish in this paper are—1st, that there are various forms of eruptive disease consecutive to and caused by vaccination; 2d, that these eruptions appear at different periods, and are subordinate to the specific laws of the vaccinious disease; 3d, that these eruptions are not prejudicial to the person vaccinated, but are rather evidences of the complete impregnation of the system, and of the protective efficacy of the act of vaccination. Notwithstanding the assertion by some authors that vaccination does not cause consecutive disease, the occurrence of such disease has been frequently noticed by medical practitioners; and even its varieties have been designated. Most works on diseases of the skin have some reference to such affections. There is not, however, any methodical analysis on record of such maladies, and they have been regarded rather as unimportant casualties than as legitimate sequences of vaccination. The desire, probably, thoroughly to establish vaccination in the confidence of the public has insensibly led to a depreciation of the after-symptoms, whereas it would have been more philosophical to examine the facts themselves, and to trace their actual connection, if any, with the original disease. There need be no fear that the great value of Jenner's immortal discovery will be impaired by an accurate acquaintance with all its phenomena. The whole number of secondary eruptions noticed by Mr. Ross during the period whilst he was conducting these inquiries was nineteen, and of these the specific character was recorded in eleven; the others were adverted to in general terms as "secondary eruption;" but he believes that the greater number, or the whole of them, were of the vesicular type. Of these eleven, one was a transient exanthem, three were papular, and seven vesicular. In three other cases an eruption appeared at the end of about three weeks, but whether these cases were attributable to vaccination or not, the evidence is not decisive. The vesicular eruptions varied much in character, sometimes being as small as millet-seeds, and few in number; at other times as large as a crown-piece, and looking as if one vesicle was comprised within the circle of another. The size of the eruption was frequently that of the cow-pock at the eighth day, which indeed it very much resembled, being a vesicle with a small central depression and circumferential redness. These eruptions were always preceded by fever, which was proportioned in degree to the number of vesicles thrown out. This fact proves the constitutional character of the affection. On this

point the author remarks that he has several times seen patients suffering from pyrexia and general *malaise* on the day when in other cases an eruption has usually appeared; but of these he has taken no account. The pyrexia, however, has convinced my mind that the activity of the virus does not always cease with the drying-up of the pock. Even after the local action has disappeared, there are periodical changes going on in the constitution—which are, according to circumstances, of greater or less energy, and which are manifested by fever and secondary eruptions. The most important point connected with these secondary affections is their periodicity. In some of the cases the eruption appeared on the tenth day from the day of vaccination; in others on the fifteenth day; whilst, in one case, the eruption was thrown out on the tenth day, it continued for a few days, then disappeared, and was observed again on the fifteenth day. In other instances, the eruption appeared both on the fifteenth and twentieth days, or thereabouts. These cases further show the periodicity of the affection, and seem to reconcile the discrepancies between the cases that occurred on the tenth and fifteenth days respectively. Much accuracy of observation is required to fix these facts, and the reports of parents must be taken with some allowance, and very rigidly examined. The surgeon should himself see the eruption, and he will be able to determine, after a very short experience, whether the eruption be one or two days old at the time it comes under his observation. The day on which the accompanying *malaise* occurred must be also taken into consideration. Without such carefulness as this, the surgeon may be misled as to the precise day of the occurrence of the eruption, by the report of the mother, who may have failed to notice the rash on the first day. "Another source of error will be the development of the original pock; for I need not say that when vaccination is done with dry lymph, as it must necessarily be in rural districts under the existing crude and inefficient regulations, the development of the local and constitutional effects will vary from the genuine type, being often two days later than is proper—that is to say, a pock at the eighth day will be smaller than it should be, and will not reach maturity until the tenth. So frequently does this occur, that I have heard surgeons say that they prefer to take matter from a tenth-day pock, it being larger and fuller than the eighth-day pock. This is true only when dry lymph has been used, and not always true even in this case. I have known the pock to begin to be developed on the eighth day after the insertion of the lymph, and then run a regular course. These and others such are aberrations from the genuine type, and when they occur must be allowed in the calculation. Whatever variations may be observed in the secondary eruption may be referred safely to some irregularity in the primitive pock. The proper period from which to date the phenomena of vaccination is the formation of the vesicle, the symptoms anterior to this being variable. From the moment, however, that a vesicle is formed, with its attendant constitutional pyrexia, which occurs ordinarily on the fifth day, the phenomena, if the pock be genuine, proceed in regular succession, and may be safely calculated. Hence it would seem, if my observations on the secondary eruption be correct, that *vaccinia*, as a disease, is subject

to a periodical evolution in the system, which is manifested by a critical eruption on the fifth, tenth, and fifteenth days. It is not my intention at the present time to discuss the characters of the primitive pock further than as they illustrate the phenomena of the secondary eruption. The constitutional pyrexia sets in on the fifth day, continues on the sixth, abates on the seventh, and recurs on the eighth day; it continues on the ninth, and abates on the tenth. On this day the secondary eruption generally appears. I have long held the opinion that the constitutional effects are not produced so much by the small quantity of lymph inserted under the skin, as by absorption from the pocks; these being not merely final results of certain constitutional actions, as generally supposed, but means of thoroughly impregnating the system with the virus. They are laboratories of lymph rather than mere eliminants of a poison. Hence it is that the security of the system, according to Mr. Marson's observations, is in a direct ratio to the number of pocks induced. If we open a pock with a lancet we can exhaust it of all its lymph; if we wait a little we shall be supplied with a fresh secretion; and so on for an indefinite period so long as the pock maintains its activity. If the pock be not opened, we have a right to conclude that the same process of secretion is continually going on, and the excess of lymph, instead of being evacuated, as in the former instance, is absorbed into the system. There is no reason to think that absorption does not proceed from the surface of the skin under these circumstances, whilst it is the rule on all other surfaces of the body, whether mucous or serous. In fact, the functions of every organ are sustained by a due balance between the processes of secretion and absorption in unintermitting activity. Hence the constitutional pyrexia in vaccination commences with the formation of the vesicle; and hence, too, the number of vesicles is a measure of the immunity conferred. This argument holds good, I think, in smallpox and other similar affections, as well as cow-pox."

Mr. Ross then recites the particulars of several cases illustrating his views, and continues: "I need not quote a larger number of cases, as they resemble each other very closely. A table accompanying this paper exhibits at one view all the facts I have been able to collect. It will be observed, in reference to the table, that the frequency of the secondary disease depends upon the time of year when vaccination is performed. During the summer, when the circulation is hastened, and the functions of the skin are actively performed, the consecutive eruption appears more frequently than in winter, when it is very rare. The winter is generally admitted to be an unfavorable time for vaccinating, as the coldness of the temperature depresses the vital powers, and tends to prevent, especially among the poor, the proper development of the pock. In consequence of the greater prevalence of the secondary eruption in summer, and the suspicion with which it is viewed by parents, I have been accustomed to postpone vaccination as much as possible during the high temperatures of June, July, and August; and I think it would be better if this caution were generally observed, especially with private patients, for nothing can be more disagreeable to a surgeon than to find his little patient covered with an eruption which he did not anticipate. It is fortunate that the

eruption rarely continues more than three or four days, and is frequently more evanescent, a circumstance which distinguishes it from the ordinary eczematous diseases. I may observe here, that no experience on this matter can be worth much that is limited to an observation of the pock on the eighth day, as is the ordinary practice in public institutions. Hence I do not regard as of any weight the objections of those gentlemen who, with such an experience, have denied the existence of a special secondary eruption. Being public vaccinator for an extensive district, I vaccinate a considerable number of children every week, at the present time, yet from never watching the cases after the eighth day, I rarely hear of instances of secondary eruption; but I have not the slightest doubt that I should discover them, as frequently as heretofore, if I followed the cases up as I did when I was conducting these investigations. I think that I have now adduced evidence sufficient, if not to convince absolutely, at least to induce a strong presumption in the mind of an unbiassed man, that vaccinia, under certain circumstances, is followed by a secondary eruption, special in its nature, though various in forms, which observes fixed periods of evolution, and is an integral part of the original affection."

ART. 81.—*Case of Sclerema, or Pachydermatous Disease.*
By Dr. R. M'DONNELL.

(*Dublin Hospital Gazette*, Nov. 1, 1856.)

Cases of this kind must not be confounded with the sclerema of new-born infants (*sclérème des nouveaux nés*), a name given by Chaussier to an induration of the skin in infants.

CASE.—Catherine C—, æt. 24, was admitted into the Richmond Hospital under Mr. Adams's care, June 18th, 1854.

She continued for some months in the hospital as a patient; her complaint did not render her unfit for useful occupation, she accordingly received employment in the institution; she has therefore been now under observation for a period of rather more than two years.

As to her present condition, the integument covering the face, fore part of the chest, and arms, presents in a very marked degree that induration which forms the most striking feature of her disease.

On the face the skin is tense and shining; around the mouth, on the forehead, and more particularly across the nose, it seems as if tightened from contraction, and its rigidity interferes with the natural play of the features.

Across the chest the skin is so tightly drawn as to produce a feeling of constriction.

The hardness and stiffness are nowhere so great as in that covering the arms and hands. It is with difficulty moveable over the deeper structures; it has altogether lost its pliancy and softness; it feels like brawn; one might as easily pinch up between the finger and thumb the skin on the back of a pig as the skin over these parts. The free movement of the fingers is in a great degree impaired; the patient cannot perform any delicate handiwork; her former occupation of dressmaking she has been obliged to abandon, from her

inability to handle needles, &c. The contraction of the skin in the bend of the elbow prevents the possibility of straightening the arm ; in attempting to lift heavy weights the skin in this locality has actually torn and become fissured, and in the bend of each elbow scars, the result of this, remain.

The tension of the skin over the knuckles, and the prominence of the lower extremity of the ulna, cause these points to ulcerate readily if exposed to friction ; the power of feeling is slightly, if at all impaired. The skin on the back, on the lower part of the body, and lower limbs, is in a perfectly normal state.

The patient complains of pain in the hands like the stinging of nettles ; this pain is made worse by exercise, is much relieved by bathing the hands in warm water, and is most troublesome after going to bed at night. She suffers from dyspepsia, and has had at irregular intervals violent attacks of bilious vomiting, after which she observes a temporary improvement in the condition of the skin ; in other respects her general health is good ; there is no derangement of the menstrual functions.

Cold seems to have been the starting point of the disease, it followed a wetting she got four years ago while recovering from an attack on the chest.

The rigidity of the skin commenced in the right arm, and passed across the chest to the other ; the face was attacked later.

In the case of this patient, only temporary benefit has been derived from the various modes of treatment which have been resorted to ; from nothing did she derive so much advantage and relief as from frequent warm baths and the use of cod-liver oil, which, besides being administered internally, was rubbed in over the indurated integuments after each bath.

Dr. M'Donnell adds—

"Two cases of a closely analogous, if not the same disease, have been published by Dr. Hugo Fiedler,* as 'atrophy of the cellular tissue and of the skin.' One of these cases was that of a young woman 20 years of age. The disease came on slowly, commencing about the joints, and accompanied with swelling, and pains in the joints of the fingers.

"On her admission into the hospital at Dresden, 'her skin all over the body was stretched, firm, tight, and smooth, without suppleness or elasticity, adhering close to the muscles and bones.'

"The second case was that of a boy aged $13\frac{1}{2}$ years, in whom the disease co-existed with rheumatism.

"Fuchs,† under the name of 'Cutis tensa,' has reported a very interesting case of the same affection. And Oulmont ‡ gives another 'of a peculiar thickening and hardening of the skin,' in which the induration occurred in different-sized patches over the face and body. This case left hospital, so that there was no opportunity of watching the progress of the disease."

* 'Deutsche Klin.,' 34, 1855.

† 'Klin. Bericht.,' Göttingen, 1855, S. 192.

‡ 'Revue Méd.-Ch.,' Dec., 1855.

ART. 82.—*On the use of Guano in Skin Diseases.* By Dr. SCHRAMLI.

(Schmidt's *Jahrb.*, Bd. 90, § 168, 1856.)

Dr. Schramli says that he has seen very marked results from the use of guano as an external application in diseases of the skin, in impetiginous affections of the scalp, in psoriasis, in itch, &c. He uses the guano in the form of lotions (\mathfrak{Zij} to Oij), baths, and ointments (\mathfrak{Zss} — \mathfrak{Zj} to \mathfrak{Zj} $axunge$).

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

(A) CONCERNING INFLAMMATION.

ART. 83.—*On the topical application of Tincture of Iodine in Hospital Gangrene.* By M. SUREUN.

(*Gaz. Hebdom. de Med. et Chir.*, Jan. 12, 1857.)

THE cases of hospital gangrene which were treated in this manner are said to have occurred on ship-board in a number of wounded soldiers, but no particulars as to time and place are given. The cases were seven in number, all amputations, two above the knee and five above the elbow. A pledget of lint was soaked in the tincture and bound over the stump by means of a bandage, after having first bathed the affected parts with chlorinated water. The application at first caused considerable pain, and opium was required to calm this and procure sleep; but the next day the pain had ceased and the stump had acquired a healthy appearance.

(B) CONCERNING TUMOURS.

ART. 84.—*Illustrations of the pathology of Cancer.*
By J. Z. LAURENCE, Surgeon to the Northern Dispensary, London.

(*Pamphlet*, London, Richards, 1856, pp. 59.)

In the first part of this pamphlet we find a good deal of interesting information respecting the classification of cancerous tumours, and particularly respecting two forms which the author proposes to raise into the rank of species under the names of *nævoid* and *enchondromatous cancer*.

Mr. Laurence allows that the claims of *nævoid cancer* to be considered as a distinct species must still be considered as doubtful, but he thinks that they are tacitly allowed by the nomenclature of eminent pathologists—as the *Carcinoma cirsoïdes* of Müller, the *Carcinoma telangiectodes* of Virchow, and the cavernous cancer of Esmarck. Mr. Laurence has met with one case which we give; and he relates

two cases which have fallen under the notice of Müller, and one which is reported by Cruveilhier.

Mr. Laurence's case.—Edward W—, æt. 61, entered the Middlesex Hospital some years ago, for violent haematemesis, and, some time subsequently, for equally severe haematuria. Ever since he could remember, he had had a number of vascular tumours in different parts of his body. Over the outer third of the right pectoral muscle was one of the size of a small walnut; above it were two smaller ones; over the right deltoid muscle, one of about the size of a filbert. Above the right clavicle was one larger than either of these. He had a small one in the dorsum of the cleft of the right thumb, and one over the first phalanx of the left ring finger; several small ones about the neck, and one above the left clavicle. On the inside of the left angle of the lip were one or two, and on the mucous membrane of the inside of the cheeks, deep back in the mouth, were two or three of about the size of a pea on either side. The left half of the tongue was irregularly swollen out by venous growths. On the glans penis were several such tumours, of about the size of those inside the mouth.

Curiously enough, although suffering from the effects of fistula *in ano*, when I last saw him in the hospital, under Mr. De Morgan's care, he had never had bleeding from the rectum, excepting twenty years ago, but appeared now to be subject to prolapsus of the anus. He was a good deal emaciated, and had a sallow flabby look about his face. Numerous minute varicose veins supplied the healthy blush on the cheeks; in these were several very minute vascular prominences.

These nævoid tumours varied considerably in appearance, and in their relation to the cutaneous structures. Some were entirely beneath the skin, under which they felt like rolling, round, encysted tumours, made but little prominence, and were rather appreciable to the sense of touch than to that of sight. Some, on the other hand, had that peculiar pale, venous-blue hue of the subcutaneous nævi of children; whilst a third set formed rounded, thin, walled, dark, purple tumours. They could all be partially emptied of their blood by pressure, filling again when this was removed. None pulsated in the slightest degree.

Here, then, we have a multiple dissemination of non-malignant tumours, which, by their presence, in all probability, in the hollow viscera, had given rise to severe local effects, but yet, after existing for years, had caused none of that undermining of the general health so often observed in conjunction with a single cancerous tumour, to all appearances, comparatively to these venous growths, innocuous by its mere local effects.

The claims of the *enchondromatous* cancer to the rank of a species Mr. Laurence regards as settled by two most conclusive cases, which are these:

CASE.—Enchondroma of the testis: operation: death: autopsy: secondary enchondromatous deposits in the lymphatic and vascular systems, and in the lungs.—Henry W—, æt. 37, received an injury to his back and his right thigh, two years before his admission into St. Bartholomew's Hospital, under Mr. Skey. Some swelling of the right testicle ensued; but this did not begin notably to enlarge till, a year afterwards, the organ got bruised by an iron bar falling on it. Before the patient was operated on, the testicle had attained a transverse circumference of ten and a half inches; was hard, heavy, and tender. The spermatic cord was similarly affected. After the operation, the tumour turned out to be an excellent example of enchon-

droma of the testicle, and to be composed of "tortuous, cylindriform, and knotted pieces of cartilage." The epididymis was healthy. The patient recovered well from the operation, but soon returned to the hospital, feeble and emaciated, exhibiting a breathlessness which, increasing, cut him off suddenly in less than three months after the operation.

At the post-mortem examination, the spermatic lymphatic vessels were seen to contain deposits similar to those in the testicle,* and "became connected at their upper part with a swelling of the size and shape of a hen's egg probably a diseased lymphatic gland which adhered to the vena cava inferior and projected into the cavity of this vein." "Beyond this point, no affection of the lymphatic system could be traced the growth in the vein was branched like a stunted leafless shrub and in direct contact with the venous blood." "Both lungs were enlarged by the formation in them of masses of cartilage in such abundance that the two lungs weighed eleven pounds and a half." "In many of the larger branches of the pulmonary artery, small shrub-like growths, like that in the vena cava inferior, were attached to the lining membrane." No other organ of the body was found diseased. "The cartilage, in every seat of its growth, was of the true or hyaline kind." Professor Paget very kindly showed me the various preparations above referred to, and also gave me a section of one of the lungs, of which I subjoin the following description from my note-books: "The section was crammed with cartilaginous tumours, of the average size of a hazel-nut. They were connected but laxly with the surrounding pulmonary tissue, and could be easily and cleanly enucleated with one's fingers. Each was enveloped in a thin pseudo-cyst of cellular tissue, which, branching inwards, subdivided each tumour into a number of small lobes. The cartilage was bluish and translucent, cut like other cartilage, and agreed essentially in its minute characters with that of the ordinary cartilage of joints. The matrix of the cartilage-cells was finely nebulous; the cells themselves exhibited great variety of forms—round, triangular, elongated, &c., and filled limited lacunæ in the matrix. In some instances, the cell occupied but a small portion of the lacuna, in others it filled it, and in most cases each lacuna contained more than one cartilage-cell. This was well defined, and possessed generally a round dark nucleus, and a good deal of coarsely granular matter."

The second case was under M. Richet, and is reported in the 'Gazette des Hôpitaux,' Nos. 71 and 95, for 1855.

CASE.—*Enchondroma of the scapula: operation: death: autopsy: secondary enchondroma of the lungs.*—A man, æt. 34, had had a tumour growing on the right scapula for four years: by that time it had attained the size of a child's head. M. Richet removed it, together with a considerable portion of the scapula. "The tumour originates from the bone, which it completely surrounds; it does not rise beyond the level of the spine of the scapula. It is enclosed by the periosteum. . . . It is composed of a tissue of a gelatinous appearance, but of the consistence of somewhat softened cartilage. This substance is homogeneous, transparent, traversed by

* It is not often that we have an opportunity of anatomically demonstrating the presence of morbid material in the lymphatic vessels. Sir A. Cooper relates an instance of cancer of the testicle, in which "the absorbents of the spermatic cord were very considerably enlarged, their coats thickened, and small tumours appeared at irregular distances, arising from a diseased and enlarged state of their valves. These vessels were entirely impervious, and contained matter similar to that found in the testicle." The thoracic duct, receptaculum chyli, and lumbar glands were similarly diseased. (Sir A. Cooper, in 'Medical Records and Researches.')

filaments of fibro-cellular tissue, which appear to subdivide it into so many lobules or loculi.

"The microscopic examination made by Messrs. Giraldès, Broca, and Verneuil, proved that the tumour was exclusively formed of large cartilage-cells and nuclei."

The man died a fortnight after the operation.

At the post-mortem examination, at least thirty tumours were found in the substance and on the surface of the two lungs, some the size of a millet seed, the largest that of a nut. "This latter one offered all the external characters of an enchondroma; it was, in fact, cartilaginous tissue; and the microscopic examination, made with the greatest care by Messrs. Broca, Giraldès, and Robin, proved that these tumours contained nothing but cartilage-cells."

Rokitansky, without offering any further explanation, states that he "has seen it (*enchondroma*), on several occasions, in the lungs;" and that "enchondroma is benign, provided it does not enter into any specific infectious metamorphosis."*

In the other parts of his pamphlet, Mr. Laurence discusses the question of hereditariness, and decides that cancer is not hereditary; and after this he considers the relation of cancer to tubercle, the relation of primary to secondary deposits, and the nature of cancerous diseases.

ART. 85.—*On the Cancerous Degeneration of Warty Excrescences.*

By MR. BUTCHER, Surgeon to Mercer's Hospital.

(*Dublin Quarterly Journal of Med. Science*, Nov. 1856.)

In this paper Mr. Butcher relates seven cases which illustrate that association between warty excrescences and cancerous degeneration, which has not met with all the careful attention from writers to which it is entitled. These cases show very clearly that when once the ulcerative process is set up there is never any amelioration, ever so temporary, no attempt at cicatrization; and that there is in addition a great liability to the appearance of encephaloid disease, either on the site of the original tumour or in the line of absorbents connected therewith.

In the same paper, moreover, Mr. Butcher relates four cases of encephaloid cancer occurring as an isolated manifestation of malignant disease.

* Since writing this, I have received a letter from Professor Rokitansky, from which the following extracts are made: "In those cases of *enchondroma* in the lungs, which I have seen, it was quite solitary." In the second paragraph, quoted above, from his work on 'Pathological Anatomy,' he is especially alluding to those deposits of cartilage met with in medullary cancers (*e.g.*, in the testicle). In regard to the two cases of "*enchondromatous cancer*," on which I have founded this species, he says: "It is perhaps not well made out, that the *enchondromata* in the lungs were developed after the extirpation of the *enchondromata* of the scapula and testicle; they may perhaps have existed already simultaneously with those of *enchondromata* of the scapula and testicle." It will be remarked that the Professor suggests a different interpretation of the facts of these two cases, to that adopted by Professor Paget and myself. Which of these interpretations is more in accordance with the principles of inductive reasoning I leave to my readers to determine.

ART. 86.—*On the removal of Tumours.*

By Dr. SIMPSON, of Edinburgh.

(Medical Times and Gazette, Feb. 7, 1857.)

Dr. Simpson's plan is to introduce a hollow acupuncture needle or very small trocar into the tissue of the tumour, and inject a small quantity of chloride of zinc, perchloride of iron, creasote, or some other irritating solution. The effect of this operation is to destroy the vitality of the tumour, and to allow it to be separated by a process of enucleation.

ART. 87.—*Topical application of Nitrate of Potass in certain Erectile Tumours.* By Dr. MANGENOT, of Rambervilliers.

(Bull. Gén. de Ther., Jan., 1857; Dublin Medical Press, Feb. 18, 1857.)

"In 1841," says Dr. Mangenot, "I was brought to see a little girl affected with a congenital cutaneous nævus, which had disappeared under the influence of frictions with nitrate of potash recommended by a person unconnected with medicine. Curious to verify for myself this curative effect of the topical action of this salt, I did not hesitate, the treatment being inoffensive, to make the attempt upon my own child, who had a similar lesion. This tumour, situated at the right commissure of the lips, presented at birth only the volume of a grain of hemp-seed, but it had developed itself by degrees, and presented, at the moment when I undertook the trial, the volume, form, and colour of a raspberry.

"The following is the mode by which I went about it: During the sleep of the child, the mother, after having moistened her finger, plunged it into the powder of nitrate of potash, then rubbed the tumour rather lightly, in order not to awaken her child. Under the influence of this friction there formed a small bulla, resembling in every point that of *herpes labialis*, under which the tumour had collapsed. After the fall of the escharified epidermis, the skin, from the deep red it was previously, had assumed a rose tint; but as there still remained a few small vessels on the surface of the cicatrix, and as besides the edges of the tumour were prominent, I repeated the frictions. At the end of eight days there remained nothing more than a cicatrix, which has gradually become effaced. To-day it is scarcely visible.

"The same results have been obtained in four other new-born children having nævi occupying the face.

"Lastly, in a child, aged twelve, the tumour, of four centimètres in diameter, occupied the shoulder, and the friction of the chemise caused a sanguineous oozing, which made the parents uneasy. Notwithstanding their fears they would not hear of any operation. After two months' frictions practised with the nitrate in powder, there remained only a cicatrix presenting a slight depression of the cutaneous tissue."

(c) CONCERNING WOUNDS AND ULCERS.

ART. 88.—*On the Ligature of Arteries in Suppurating Wounds.*
By M. NÉLATON.

(*Gazette des Hôpitaux*, No. 1, 1857; and *Med.-Chir. Rev.*, April, 1857.)

In one of his recent clinical lectures, M. Nélaton made the following observations, the occasion being a secondary haemorrhage in the palm of the hand. Nothing is more difficult, he observed, than to arrest a haemorrhage of the hand, especially when this is consecutive—that is, when the wound is covered by pyogenic granulations. If not previously instructed as to the proper management of these secondary haemorrhages, you will be extremely embarrassed. The blood flows, you employ compression, and it ceases; but the haemorrhage will not be long before it returns, and will then be uninfluenced by compression. If compression be made above the wound, oedema takes place in all the subjacent parts, and the haemorrhage soon returns. The radial, or the ulnar, or the brachial may be tried, and yet the bleeding does not stop. Meeting such a case, M. Nélaton formerly was quite at a loss to know what to do, impressed as he was with Dupuytren's *dictum*, that arteries in a suppurating wound will not bear the ligature, the premature fall of this infallibly giving rise to a return of the haemorrhage. Nevertheless, he ventured to tie the two ends of the bleeding vessel of the palmar arch; and although the ligature fell sooner than usual, no haemorrhage followed. He has frequently since then tied vessels under analogous circumstances, and has never seen haemorrhage as a result of the fall of the ligature. Although, therefore, this fall takes place earlier (usually about the third or fourth day) than is the case with a ligature applied to a healthy artery, it is not premature, for bleeding does not follow. Examining the matter experimentally upon the dead body, M. Nélaton has found that ligatures applied to arteries in a state of suppuration (as in patients who have died after amputation), produce identically the same effects upon the coats of these vessels as upon arteries remote from the seat of inflammation; the same division of the inner coats and preservation of the outer taking place in the two cases. He feels, therefore, perfect confidence in the soundness of the practice, supported as it is by numerous cases that have occurred to him, both in private and hospital practice.

(d) CONCERNING DISEASES OF BLOOD-VESSELS.

ART. 89.—*On the treatment of Varicose Veins by the application of Caustic Issues.* By HOLMES COOTE, F.R.C.S., Assistant-Surgeon to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, March 14, 1857.)

Mr. Coote's object in the present paper is not to offer any new suggestions, but merely to point out a few facts which have not, in his

opinion, received sufficient consideration in the pathology and treatment of varicose veins. When, after death, the integument of the lower extremity is reflected from the limb so affected, the subcutaneous veins are found, as usually described, dilated and tortuous, often sacculated, and with thickened walls; the diseased vessels may spread wholly or partially round the limb, and will very frequently be found to consist of many layers extending much more deeply than first appears. This is more especially the case from the knee downwards; and the author does not hesitate to affirm, that in very many apparently simple cases, a careful dissection would expose an amount of disease sufficient to astonish one who had never before adopted this method of investigation. As the subcutaneous fat is removed, layer after layer of veins is exposed, the whole forming a close network of tubes closely communicating with one another. If two, three, or four tubes were obliterated, the blood might still find ready channels for gravitation or circulation, and smaller veins would rapidly enlarge, to compensate for any temporary obstruction.

On these grounds Mr. Coote considers the practice of obliterating the large venous trunks by an operation now commonly recommended—namely, by compressing the vessel at various points, by passing a harelip-pin underneath it, laying a piece of wax bougie upon it, and then applying the twisted suture around the pin and over the bougie—as likely to prove insufficient; for by no means can the operator be sure that he had satisfactorily cut off all channels of communication. The method by which such an operation must act, to prove successful, would be by exciting inflammation of subacute character throughout the veins in the neighbourhood, thus leading to their obliteration. This end is attained far more safely and satisfactorily by the application of caustic issues, a practice which has been strongly insisted on by Mr. Skey for very many years. So far back as 1842, Mr. Coote saw a female domestic, of forty-two years of age, in whom the veins of the right lower extremity were enlarged and tortuous from the foot up to the popliteal space, where they formed a tumour, situated towards the inner side of the limb, considerably larger than a man's closed fist. The patient complained of numbness and want of power in the affected limb, and of inability to go up and down stairs. Five caustic issues were put over the mass of distended veins about the knee, where they produced the usual effects; namely, some inflammation of the integument, easily controlled by simple measures; gradual thickening and hardening of the dilated veins, coagulation of the contained blood, and, finally, the obliteration of the circulation in the diseased parts. Ultimately the swelling subsided, and at the expiration of six months the patient was, in her own words, perfectly recovered.

But this end is not obtained by making necessarily a series of *deep* eschars; on the contrary, the eschars may be very small and very superficial, and it is by attending to this rule that danger of any unpleasant complication is avoided. Mr. Coote has had of late a very considerable number of cases, both male and female, under his care in St. Bartholomew's Hospital, and in no instance has any unpleasant symptom manifested itself. He uses the powder usually recommended, namely, three parts of quicklime, and two of caustic potash, made

into a paste with spirits of wine at the time of its application. Great care should be taken that the materials are good and pure. A thin layer is laid upon the part to be cauterized, the size of the issue being determined by a hole cut into adhesive plaster, which is applied to the skin. This hole need not be larger than a split pea or a fourpenny-piece, for it is found that the action of the caustic is always greater and more extensive than first appears. In from ten to twenty minutes, according to the purity of the materials employed, the pain which the patient experiences gives indication that the caustic has done its work. Upon the removal of the paste there is exposed a small ash-coloured slough, which becomes hard and black by exposure to the air. In four or five days the eschar begins to separate by a process of ulceration, which goes on for a considerable and variable time, making the issue very much larger than the surgeon contemplated. It may attain the size of a shilling, when it heals, generally very slowly, in the usual way by granulation and cicatrization. The effect of the issue is to cause the mass of veins in its vicinity to become permanently obliterated; while the eschar is separating, the hardening of the veins is felt more and more, the vessels, whose walls are still soft and elastic, collapse, and the limb resumes its natural colour and form. The issues must not be applied too closely one to another, for the subsidence of swelling causes the skin to contract, and the open spots upon which the caustic has acted become greatly approximated. Were they to ulcerate into one, a troublesome little sore might result, and no good end would be obtained from the infliction of a greater amount of cauterization than necessary.

The author has never seen any evil result, but Mr. Lloyd informs him that he witnessed one case in which the vein was opened by ulceration, and a severe attack of haemorrhage, followed by phlebitis, ensued. The only troublesome consequences which have resulted in the cases under his care have been, considerable inflammation in the skin about the issue, followed by a sort of erysipelatous redness, and some temporary swelling of the glands in the groin; a painful state of the issue, accompanied by ulceration of the subjacent parts; a tedious process of cicatrization. But perhaps the slower the progress of the issue, the more complete the obliteration of the veins, and the more perfect the cure. Some judgment is required in the selection of spots for the issues. As a general rule, the patients require good food, and, not uncommonly, some tonic medicine, such as cinchona or quinine.

(E) CONCERNING DISEASES OF THE BONES AND JOINTS.

ART. 90.—*On forcible extension and rupture of the uniting medium of partially ankylosed surfaces.* By Mr. BRODHURST, Assistant-Surgeon to the Royal Orthopædic Hospital.

(Medical Times and Gazette, April 4, 1857.)

Mr. Brodhurst commences this paper (which was read before the

Royal Medical and Chirurgical Society on the 24th of March, 1857) by stating that excision of the articular surfaces of bones is at the present time an operation of frequent occurrence, and that it is undertaken not as a substitute merely for amputation, but that this operation is performed in cases where amputation would not be thought of, and where forcible rupture of partially ankylosed surfaces would be advantageously had recourse to. He relates three cases of partial ankylosis of the knee, in which the adhesions were ruptured and motion was restored. He also cites three similar cases in which the articular extremities of the bones were excised, and relates four cases of partial ankylosis of the hip, and one case of partial ankylosis of the elbow; in all of which rupture of the uniting membrane was successfully performed. The author then gives a brief historical sketch of the operation, to show the means which have been hitherto adopted in the treatment of these cases, and to contrast them with those which he has practised and which he recommends; and concludes with some details as to the after-treatment adopted by himself. The cases related were—

1. A youth, aged fourteen, with partial ankylosis of the knee at a right angle, together with sub-luxation of the tibia backwards, of nine years' duration.
2. A female, aged forty-two, with angular false ankylosis of the knee, together with sub-luxation of the tibia backwards, of ten years' duration.
3. A female, aged seventeen, with angular false ankylosis of the knee, which had existed one year.
4. A female, aged eight, with angular false ankylosis of the hip-joint, of three years' duration.
5. A female, aged thirteen, with false ankylosis of the hip, of four months' duration.
6. An artillery officer, aged twenty-five, with false ankylosis of the hip-joint, of fourteen months' duration.
7. A gentleman, aged twenty-one, with partial ankylosis of the hip-joint, of twelve years' duration.
8. A boy, aged eight, with angular false ankylosis of the right elbow, of five years' duration.

The author states that in no instance did inflammation occur; and also that in all these cases motion was obtained. In some, complete power of motion in from six weeks to three months; in others, less-extended motion. He concludes that fibrous adhesions may safely be ruptured when they have formed between articular surfaces. And he recommends that when muscular retraction exists and there is much rigidity present, the tendons should first be divided, and subsequently the adhesions should be ruptured, when the punctures have healed.

(F) CONCERNING ANÆSTHETICS.

ART. 91.—*On some remote effects of Anæsthetics upon the system.*
By Dr. FRED. D. LENTE.

(*New York Journal of Medicine*, Nov., 1856.)

Dr. Lente records the three following cases in which anæsthetics appear to have been productive of serious ill consequences :

CASE 1.—In the summer of 1853, assisted by Dr. Leroy, formerly resident surgeon of the New York Hospital, I operated on a boy in apparent good health, eight years old, for contraction of the index and middle fingers of the right hand, the result of the cicatrization of a bone some years previously. As the case required a careful and somewhat protracted dissection of flaps into the palm of the hand, the patient was subjected to the influence of sulphuric ether, administered by Dr. Leroy, on a sponge in the usual way. Nothing remarkable occurred either during the administration of the anæsthetic or during the operation, and but a moderate quantity of blood was lost. The patient soon recovered consciousness, but in a short time he became very feeble, and soon commenced vomiting, although no food had been allowed for seven hours previous to the operation. The pulse commenced sinking rapidly, consciousness being unimpaired. Frictions were at once resorted to, and stimulants attempted, but were immediately rejected by the stomach. The prostration soon became extreme, and dissolution appeared imminent both to Dr. Leroy and myself. Brandy was freely administered by enema, and retained, and, in the course of an hour or two, reaction slowly commenced, but it was not until several hours had elapsed that it was considered safe to dress the wounds, so slowly did the patient recover from prostration.

CASE 2.—This patient, a young man in ordinary health, not robust, aged about twenty-five, of nervous temperament, wished to have a large number of decayed teeth and fangs of teeth removed. At the request of the dentist who was to operate, I administered sulphuric ether, patient sitting upright in the operating chair, a necessary position during such an operation. The patient had previously been considerably frightened both at the idea of the operation, and of the anæsthetic, although unwilling to undergo the suffering without it; he had accordingly primed himself pretty thoroughly with brandy, but was in nowise intoxicated. Nothing unusual occurred during the administration of the ether, and anæsthesia was induced without difficulty. Six stumps were rapidly and skilfully extracted, say within three minutes, perhaps within two. The patient then showed some signs of returning consciousness, and more ether was administered; anæsthesia was soon re-established, and six more teeth were, with equal rapidity, extracted. The anæsthesia was very complete, but there was no unusual difficulty in recovering the patient, and he was soon able to walk home. A week or two after this, he applied to me, complaining of debility, pain about the head, and dizziness, a disposition to faint and fall down, and various nervous symptoms, which, he said, had troubled him ever since the operation. He was very low spirited and fearful of some serious disease. He, of course, attributed all this to the ether. I endeavoured to divert his mind from this idea, and prescribed change of air and tonics. He went away, but returned within a few weeks not much better. Subsequently he improved, and after a couple of months longer was much better, though still rather nervous and desponding. He afterwards went to the city to reside, and since that time I have not seen him.

CASE 3.—W. M.—, a young gentleman, about thirty years old, in robust health, of temperate habits, was attacked with ulceration of the soft parts of the mouth from pressure of a crowded wisdom tooth; the pain was very severe, causing loss of rest and food. I advised the extraction of the tooth, but the dentist to whom he applied merely cut away the overhanging edges of the ulcer; the inflammation increased and extended to such a degree as to produce almost complete closure of the jaws, with inability to open them. It was absolutely necessary now that the tooth should be extracted as the only means of arresting the inflammation, and it was therefore proposed to etherize the patient in order to allow the jaws to be forced open sufficiently to admit the introduction of a forceps. Sulphuric ether was accordingly administered; the patient came rapidly under its influence, scarcely requiring an ounce and a half, though not entirely unconscious; the jaw was forced open with but little difficulty, and the tooth rapidly extracted by the dentist in attendance. The patient soon recovered, but seemed a little nervous and considerably excited, but expressed himself as entirely relieved from the severe pain he had been suffering. He was advised to go home and lie down for a few hours. He walked home, about a quarter of a mile or more, and followed my advice; but in the afternoon complained that the ether was still in his lungs, and sought to get rid of it by riding and walking. In the evening he was at the house of a friend in gay society, and seemed to enjoy himself, still, however, occasionally complaining of some difficulty about his chest, when, all at once, he fell from his chair, exhibited great restlessness, tossing about of the arms and legs, with great difficulty of breathing, but no loss of consciousness, declaring all the time that he could not get his breath for the ether, and that he should die; his hands and feet were said to be cold. Before I reached him, various restoratives had been applied, and he had been almost drowned by the assiduous application of hot water. It was evident at once that it was a case of violent hysterics, unusually well marked in a male. Patient at times would laugh and joke, then express fears of impending suffocation, with jactitation, declaring that as vapour of ether was heavier than air, he ought to be held up and allow it to run out of his lungs. As he was rather weighty to allow of convenient inversion, his request was not granted. Large doses of morphine were administered, but had no effect; it was only after several hours that he could be quieted. The next day he was able to be up, but complained of weakness and a disposition to faint on the slightest attempt to walk, also of some difficulty of breathing. This continued for some days, but finally disappeared, and, within ten days, he was apparently in his usual condition. Patient had never previously exhibited any tendency to hysteria.

(G) CONCERNING OPERATIONS.

ART. 92.—*On the Flap and Circular Modes of Amputation.*
By Mr. HARGREAVE, Surgeon to the City of Dublin Hospital.

(*Dublin Medical Press*, April 29, 1857.)

“As to the flap amputation,” says Mr. Hargreave, in a recent clinical lecture, “the chief advantage claimed for it by its advocates is the great celerity in performance. I believe that this is the only and sole benefit; the arteries are not more safely secured by it, neither is a better stump made by it. The results of this operation in the Crimean war I now quote from memory without having taken a note

of the periodical in which I read the statement, viz., that the flap stumps more frequently opened and sloughed during transit from one place to another than the circular ones. If this fact is corroborated by further experience, it settles the question, in my opinion, to the complete rejection of the flap amputation when possible, certainly for the army when in the field.

"To the authority of the late Mr. Liston is mainly due the great bias in support of flap amputations, which he always practised and advocated as the rule. It is not my wish to criticise Mr. Liston's practice, but if any person will read his description of the circular amputation of the thigh, in the fourth edition of his 'Surgery,' the principles of the operation are erroneous, and acting up to them in practice, I am not surprised at the operation being then most painful, chloroform unknown, still very tedious, and not affording a good stump.

"The circular amputation, whenever I can adopt it, is the one I always perform, especially in operations on the thigh. As to what some attach so much value, namely, *time*, whether the patient is under the influence of chloroform or not, it makes but the difference of *a few seconds* if the proper practical principles are adopted, and now of less moment than ever, since this anæsthetic agent is of general use. Rapidity of operation need not therefore be considered of so much importance; the arteries are better secured; less risk incurred of any unattended nerve becoming united and implicated in the line of junction, giving rise to neuralgic symptoms; a firmer stump is made, and the bone better covered; and though the limb be full and fleshy, there is not so great a weight of soft parts to be supported by the dressings as in the flap amputations."

ART. 93.—*On the Comparative Mortality of Amputations and Excisions.*

By Mr. THORNTON, Surgeon to the 9th Regiment.

(*Medical Times and Gazette*, Sept. 13 and 20, 1856.)

The following particulars are from a paper which was read at one of the meetings of the Crimean Medical and Surgical Society. Mr. Thornton found, by the returns of wounds and operations during the year then passed, that out of a total of 8900 wounds, there were 1154 operations, of which 54 were excisions, which may be thus classed:

	Cases.	Fatal.	Per cent.
Excisions of the upper extremity were . . .	36	2	5·55
" lower " "	14	7	50·00
Miscellaneous	4	0	
	—	—	—
	54	9	16·66

or 83·34 per cent. were successful.

Total operations 1154. Deaths 225, or 19.49 per cent.

Operations less excisions, 1100. Deaths 216, or 19·63 per cent., giving 3 per cent. in favour of excisions.

Or, to enter more minutely into the various operations, we will first take those of the shoulder-joint :

	Per cent.	Per cent.
Amputations were 60, fatal 19, or 31·66, or 68·34 successful.		
Excisions ,, 12, ,, 2, ,, 16·66, ,, 83·34 ,,		

giving a difference in favour of excision 15·0 per cent.

The next is that of amputations of the arm, with excisions of the elbow-joint. This class, he frankly owned, was scarcely a fair test :

	Per cent.	Per cent.
Amputations were 153, deaths 29, or 18·95, successful 81·05		
Excisions ,, 17, ,, 2, ,, 11·76, ,, 88·24		

giving a difference in favour of excisions of 7·19 per cent. Perhaps the most important class is that of operations on the hip-joint ; for, while the ten cases of amputations all proved fatal, there were six cases of excisions of the head of the femur, of which one recovered, being a per centage of 16·66 in favour of the excisions. It is needless, on the present occasion, to carry this analysis any further ; but, taking the three classes together, we find that of 223 important amputations, 58 or 26 per cent. were fatal ; and of 35 excisions, 8, or 22·85 per cent., were fatal. On the whole, that the per centage is still in favour of the excisions. It perhaps might be as well to mention what might have been the excisions performed out here.

Of the upper extremity, there were of the

	Cases.	Per cent.	
Shoulder-joint	12	2 or 16·66	proved fatal.
Elbow	17	2 „	11·77
Head of radius	1	0 „	—
Ends of radius and ulna	1	0 „	—
Part of ulna	1	0 „	—
Part of humerus	1	0 „	—
Part of carpus and metacarpus	2	1 „	—
Internal condyle of humerus	1	0 „	—
<hr/>			
	36		

Of the lower extremity, there were of the

Head of the femur	6	5 fatal.
Part of the femur	2	2 „
Knee-joint	1	1 „
Os calcis	4	0 „
Lower end of fibula	1	— „
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	14	18

ART. 94.—*On the use of Perchloride of Iron as an haemostatic during operations.* By M. MAISONNEUVE.

(*Mon. des Hôpitaux*, No. 24, 1856.)

A correspondent of this journal states that one of the principal elements of success in the difficult and dangerous operations M. Maison-

neuve is famous for undertaking, is the remarkable use he makes of haemostatics during their performance. He cites a recent case, occurring in a lad of sixteen, of fungous tumour of the dura mater, the growth of which, after having been temporarily arrested by ligature of the carotid, increased very rapidly, and was accompanied by exhausting haemorrhages. M. Maisonneuve determined upon its removal, but the tumour bled on the slightest contact, and the patient would not be able to bear the slightest loss of blood. The line of incision extended from the anterior parts of the ear to the summit of the head, and descending along the nose, was carried backwards, and then upwards to the base of the jaw, and its point of departure. A great number of arteries were thus divided, five or six of which, by reason of their anastomotic enlargements, had acquired almost the size of the radial artery. Intelligent assistants immediately compressed them with the finger, but it was impossible to thus continue the dissection without exposing the patient to the danger of death from syncope. M. Maisonneuve therefore applied to each vessel a little pledget of charpie, soaked in perchloride of iron, which was allowed to attach itself to the wound. At every stroke of the bistoury or scissors he applied a new plug, so that during the operation the patient scarcely lost a spoonful of blood; and when the tumour had been entirely removed, the entire surface of the wound was found completely dried and tanned, and was at once dressed, without the necessity of the application of a single ligature. The brown eschar which covered the wound was detached about the twentieth day, without giving rise to any haemorrhage; and although the cure can scarcely be expected to prove radical, the patient for the present is perfectly well.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 95.—*On the local treatment of Granular Conjunctiva.*
By Dr. C. S. FENNER, of Memphis, Tennessee.

(*North American Medico-Chirurgical Review*, Jan., 1857.)

Dr. Fenner describes four varieties of granular conjunctiva:

1st. The everted lid has a villous appearance; the natural papillæ of the membrane are elongated, without much enlargement; they are very red, and evenly spread over the whole mucous surface. This form of the disease is attended with considerable redness of the ocular conjunctiva, lachrymation, and increased sensibility to light, but is not liable to frequent recurrences of acute inflammation.

2d. The inner surface of the lid appears as if spread over with bruised muscular fibre, is highly engorged with blood, and bleeds on

the slightest touch. The fold of conjunctiva extending from the lower lid to the eye is much swollen, and engorged with dark venous blood, and, if the lid be depressed, rises up so as to touch or overlap the edge of the cornea. The caruncula lachrymalis is also swollen; and there is enlargement of the Meibomian follicles, with increased secretion. This form of the disease is subject to frequent and violent exacerbations, beginning with a stinging pain, usually at the external canthus; increased redness of the eye; swelling of the lids; severe supra-orbital pain; and other symptoms of acute conjunctivitis.

3d. The conjunctiva is converted into wart-like excrescences of various sizes, with deep sulci running between them.

4th. The lining membrane of the lid is thickened, and presents something of a cartilaginous appearance. The membrane is contracted, rendering it difficult to evert the lid, and when turned, the blood is forced out, so that the part appears white and glistening. The lids do not open as wide as usual, causing the eye to appear smaller than natural. This condition is more frequently found in middle and advanced age, and is attended with considerable opacity of the cornea and dimness of vision, but is less liable to relapses than the second and third varieties.

About the local treatment he says—

"There has been, and is yet, a great variety of opinion among surgeons in regard to the proper local treatment of granular conjunctiva, and a great many stimulating, caustic, and astringent applications have been recommended, most of which I have found absolutely injurious. The only articles I now use locally are a saturated solution of the acetate of lead, the undiluted liquor plumbi diacetatis, the sulphate of copper, and occasionally the knife. In the fourth variety I have described, where the lining membrane is contracted, white when everted, and having the appearance of cartilage, I have found the saturated solution of the acetate of lead brushed over the diseased surface every morning restore the parts in a very few weeks. The solution should be applied for two or three minutes, with a camel's hair pencil. This remedy answers better than any other in simple swelling of the conjunctiva remaining after the first attack of purulent ophthalmia, when the inflammation of the eye has subsided, and before repeated exacerbations have changed the structure of the membrane. In the other varieties, I have found it of service alternated with sulphate of copper. When the granules are loose and spongy, a few applications of the acetate of lead will contract and harden them, after which its efficacy seems to cease, when the sulphate of copper will be more beneficial. The lead should be applied until the part becomes of a milky whiteness, caused by the coagulation of the albumen of the blood, after which a stream of warm water from a sponge should be passed over the lid, before it is permitted to fall back to its place. If, on the next day, the whiteness has nearly disappeared, the same application should be repeated. Sometimes the whiteness remains for several days without any perceptible change, when the remedy will generally be found to irritate the eye, and not adapted to the case. I have seen the lead continued until there seemed to be a white deposit on the diseased surface, beneath which the parts were ex-

tremely sensitive, and inclined to bleed upon the slightest irritation.

" In the first three varieties of the disease, more benefit will result from the local application of the sulphate of copper than from any other remedy; and I believe that this article, occasionally alternated with the solution of the acetate of lead, will accomplish all that can be desired. A firm, well-crystallized piece of the salt should be selected, cut to a wedge-shape, and fastened in a quill. The lid should be everted, and the mucus wiped away with a soft sponge; the end of the copper should be dipped in water, and rubbed over the entire diseased surface until it becomes of a dirty white or greenish colour, when a stream of water should be allowed to flow over the surface, before the lid resumes its natural position. This is to be repeated every morning. It causes considerable pain and redness of the eye, which soon passes away, and the relief is so marked that the patient soon learns to prefer this application to any other. Under this treatment the spongy granulations contract, harden, become flattened on the surface, the fissures gradually disappear, until the whole surface is nearly smooth, although the membrane remains thickened. At this stage patients are so much relieved that they often consider themselves well, and dislike to submit to further treatment, particularly if they are at a distance from home, or think they can continue the applications with the assistance of a friend. The first point of healthy conjunctiva is seen at the edge of the tarsus, in the centre of the lid; a few blood-vessels will be discovered running from the edge, and lost in the diseased membrane. These vessels become shorter on either side of the centre of the lid, until they disappear. Gradually the arteries extend, until the whole surface assumes a healthy appearance, the temporal and nasal portions being the last to yield. The healthy conjunctiva seems to extend from the edge of the tarsus, in the same manner that the skin spreads over a denuded surface.

" I was formerly in the habit of using the knife freely in the beginning of the treatment, shaving off the fleshy growth, but I found no benefit from that course—a diseased surface still remaining, from which the granulations sprung as freely as before—and for a long time I entirely abandoned its use; but I have subsequently found it beneficial, after the sulphate of copper has been used until the granulations are hardened and contracted; then, shaving off the surface of some of the most prominent near the edge of the tarsus, and immediately applying the copper, I have found to hasten the cure. Nitrate of silver, either in solution or substance, which has been so much lauded as an application to granular conjunctiva, has in my hands proved injurious, causing swelling of the lids, inflammation, and not unfrequently ulceration of the cornea. It does not produce the kind of action necessary, which should be actively stimulating and astringent, to produce contraction and absorption of the granules, rather than their destruction by caustic substances. During the exacerbations I have found the solution of the nitrate of silver, of the strength of from twenty to thirty grains to the ounce of water, more efficacious than any other remedy, when applied with a brush to the engorged fold of conjunctiva extending from the lower lid to the eye.

I have tried the iodide of zinc, as recommended by Dr. Hays, but the result has not proved satisfactory. A solution of common salt is sometimes of service in mild cases, and makes a very good occasional wash for the eye during the day, to remove any slight roughness or smarting, and to clear the cornea of a thin stratum of mucus, that accumulates on its surface. Active escharotics, according to my experience, should never be employed; they leave an abnormal surface, from which the disease is rapidly reproduced. They prevent the parts from ever assuming a healthy state, and the inflammatory action they induce rarely fails to injure the eye. Mr. Lawrence remarks—‘After the use of escharotics, the conjunctiva does not regain its normal state; it exhibits traces of the former affection, which, however, do not interfere with its function. It is thicker and has a leathery appearance, with a darker red colour than in the natural state, and sometimes we observe whitish cicatrices.’ Walther’s remarks in reference to the escharotic plan of treatment are highly appropriate. He says—‘The benefit derived from them is, on the whole, inconsiderable; even when methodically and cautiously employed, they either do not effect a complete cure, or bring it about very slowly. . . . Most of them are so strong, that the eye, even in its relaxed state, will not bear them without experiencing inflammatory reaction. . . . I am indeed astonished when I see one of the most delicate organs attacked with a series of applications so powerful and destructive, from corrosive sublimate to arsenic. The number of these local remedies is calculated to excite distrust. When a disease can be easily and safely cured, the remedies are few, simple, and recommended by reason and experience. They become multiplied in proportion to the obstinacy and tediousness of the complaint.’ Counter-irritation by means of a seton or blister to the back of the neck will be found serviceable, and the frequent bathing of the eye during the day in warm water will give much relief. The above plan of treatment regularly and systematically pursued will rarely fail to bring about a perfectly healthy condition of the palpebral conjunctiva, and a complete restoration of vision, where the eye has not been injured beyond the power of reparation.’

ART. 96.—*On the use of Perchloride of Iron in Panniform Keratitis.*
By M. FOLLIN.

(*Archiv. Gén. de Méd.*, June, 1856.)

The medical profession of Lyons, to whom we are in some measure indebted for the introduction of the use of the perchloride of iron as a therapeutical agent, are much interested just now in its application to the treatment of panniform keratitis. This disease is one of great severity, on account of its tenacity, its relapses, and its incessant aggravations, and finally on account of the impairment or total loss of sight to which it leads. Among the numerous methods which surgeons have employed in its treatment, cauterization, and annular division of the vessels supplying the new growth, have doubtless produced successful results; but their efficacy is not such as to leave

nothing more to be desired. Their employment is not always easy, and, in the case of infants, oftentimes impossible.

To destroy the very minute vessels running from the surrounding conjunctiva to the surface of the cornea being the principal indication, M. Follin conceived the idea that this might be accomplished by means of the perchloride of iron. This powerful astringent arrested the abnormal circulation by coagulating the blood in the small vessels, which, consequently, being no longer required, were absorbed, and the cornea regained its transparency. Such are the results obtained by MM. Follin, Broca, and Gosselin, in several cases reported.

M. Follin makes use of the perchloride of iron in a perfectly neutral state, at 30° (Beaumé). A single large drop is introduced into the eye by means of a quill. The first effect is a burning pain and a sensation of powerful constriction, which gradually diminish in the course of a quarter of an hour. The heat is, however, more supportable than that produced by many other agents in use, the sulphate of copper for example. If the eye should continue injected and phlegmated, cold applications and gentle astringents should be resorted to; among which latter M. Follin prefers a decoction of rhatany. The perchloride is not repeated for two or three days, and marked amelioration is generally observed after the third or fourth application; the vascularity of the cornea is already diminished, the photophobia has nearly disappeared, and the sight made clear. It is rarely necessary, in order to produce a complete cure, to repeat the remedy oftener than ten or twelve times, frequently four or five applications are sufficient.

The presence of superficial ulcers on the cornea does not contraindicate the employment of the remedy.

ART. 97.—*On the inutility of Depletion in Syphilitic Iritis.*

By Mr. HAMILTON, Surgeon to the Richmond Hospital.

(*Dublin Hospital Gazette*, Nov. 1, and Dec. 8, 1856.)

In the treatment of syphilitic iritis, most authors recommend active depletion either by leeches, cupping, or bleeding from the arm, according to the severity of the inflammation, and repeated according to the obstinacy of the disease. Mr. Mackenzie, in his excellent treatise, speaking of the treatment of iritis in general, has the following remarks: "Bloodletting must in no case be neglected, and when the patient is robust and the inflammation severe, must be vigorously employed. Local bleeding is by no means adequate to remove iritis even of moderate severity. General bleeding must be premised and repeated till the constitutional irritation is abated. In no disease of the eye is venesection so remarkable for its sudden effects, as in iritis. The patient who could not previously discern the face of a person standing before him except as a mere mass, will often exclaim, on opening the eye after venesection, that he sees clearly. *I have observed this especially in syphilitic iritis.* The blood taken from the arm is very buffy, especially when the disease is rheumatic or syphilitic. Cupping is not to be trusted as a substitute for vene-

section. It is comparatively of no effect. After venesection, leeches may be applied freely round the eye, and repeated every day or every second day till the inflammation is subdued." A few pages after, in treating of syphilitic iritis separately, he quotes the authority of Dr. Monteath, still further in support of "full bleeding from the arm."

"Now," says Mr. Hamilton, in a recent clinical lecture, "*I am sure,* that depletion is unnecessary for the cure of syphilitic iritis. I have for many years past treated a large number of cases without taking away a drop of blood, and cured them as rapidly and effectually as could be wished. The treatment has consisted in the administration of mercury to decided salivation, and the application of the extract of belladonna round the orbit. Let me produce a few instances of the success of this mode of treatment, in cases offering the acute form of the disease."

CASE.—*Iritis cured without depletion.* Case taken by Mr. Frazer.—Esther D., æt. 26, admitted 24th March, 1846, to No. 13 Ward of the Richmond Hospital, with syphilitic iritis of the right eye; the conjunctiva and sclerotica are intensely vascular, the pupil contracted, slightly irregular, the iris greenish, though naturally gray. The aqueous humour hazy. She has pain in the eyeball and brow, keeping her awake at night. Vision indistinct and clouded, a constant flow of tears over the cheek, and intolerance of light. Three weeks ago perceived the eye to be bloodshot, in six or seven days the lids became swollen, the secretion of tears increased, and the sight got dim. She has a marked eruption on the chest and slightly over the back and arms, and wandering pains in the bones with periostitis over the tips of the shoulders. The countenance is sallow and miserable, and she is a picture of wretchedness and suffering.

25th.—Mr. Hamilton ordered five grains of Hyd. c. Creta three times a day, and the extract of belladonna to be applied round the eye at bedtime.

Her mouth was affected by five pills, with marked relief of all her symptoms. To take one pill at bedtime. On the 28th they were omitted, after she had taken seven, as they produced griping.

April 2d.—Tunics of the eye still vascular, but the aqueous humour is clear and the iris natural in colour, and dilating from the effect of the belladonna.

7th.—Pupil perfectly circular.

21st.—She was kept under the influence of mercury till to-day. A pint of infusion of sarsaparilla with fifteen grains of hydriodate of potash daily.

May 4th.—Discharged, having regained her natural colour, flesh, and spirits.

CASE.—*Iritis cured without depletion.* Case taken by Mr. Frazer.—James S., æt. 24, an attorney's clerk, a hard drinker, of broken-down constitution, and suffering from recent excesses, was admitted 16th January, 1846, into No. 9 Ward of the Richmond Hospital, with syphilitic iritis of the right eye, a marked eruption of brownish spots sparingly scattered over the body, a cartilaginous cicatrix of a chancre at the corona, and pains in the joints. The pains were those of gonorrhœal rheumatism, of nearly two years' standing. The chancre was contracted four months since, and healed by a small quantity of mercury in six weeks, leaving the hard cicatrix; he does not know when the eruption appeared, but the iritis began three weeks since, at first slowly, but rapidly got worse a few days before admission.

The right eye presents the appearance of the most severe inflammation, the conjunctiva and sclerotica deep red, the iris, naturally of a gray colour, is greenish and dull, the pupil contracted, rather irregular, and the anterior chamber hazy. The upper eyelid is swollen and oedematous, there is little intolerance of light, but profuse lachrymation. There is dull pain in the ball of the eye, and he complains of the most severe pain in the right brow and temple, coming on in the evening and remaining during the greater part of the night.

Mr. Hamilton ordered him to get two grains of calomel and a quarter of a grain of opium, every four hours, and the extract of belladonna to be smeared round the eye a little before the time of the commencement of the pain.

19th.—Mouth slightly affected. The inflammation of the eye less.

21st.—Fully under the influence of mercury; the iris is recovering its natural colour, and for the first time is affected by the belladonna, the pupil being slightly dilated. The nocturnal pain is much diminished.

24th.—Vascularity very slight, and the pupil dilates regularly. The humours clearing, and he has only a dull pain in the forehead at night.

26th.—The eye perfectly well. He was kept under the influence of mercury for a few days longer, and afterwards given the hydriodate of potash with infusion of sarsaparilla, and left the hospital on the 17th, considerably improved in flesh and appearance.

"I was originally led to reject depletion," says Mr. Hamilton, "when patients, labouring under syphilitic iritis, presented themselves in the same wretched, depressed condition as this man and woman, and with such a bloodless aspect, that they were obviously no subjects for taking from them what they so evidently wanted—a proper supply of healthy vivifying fluid. With the old prejudices in favour of depletion in inflammatory diseases, it required some courage to resist applying leeches or cupping-glasses, when the eye was so intensely inflamed; and I watched the daily progress of the diseased action with no little anxiety. Observing this to be so favorable, that directly the mercury affected the mouth and the system, the inflammation subsided, the iris resumed its bright, healthy aspect, and unclogged of the lymph which, deposited in its structure had stopped its motions, the pupil expanded to the action of belladonna, I applied the same treatment to other cases, and finally rejected depletion altogether in syphilitic iritis. The line of treatment is sufficiently detailed in these cases to render any further remarks as to the form or mode of administering mercury unnecessary. Two grains of calomel, and one fourth, or one eighth, of a grain of opium, three times a day, till full salivation, in subacute cases; and in the acute form of the disease, or in that which suddenly becomes acute, the same quantity every third hour. Where there are other symptoms, eruptions, &c., the mercurial action should be kept up for eight or ten weeks, till the poison is fully worked out of the system.

"It will be frequently observed that, during the time the patient is taking mercury, before salivation is induced, the disease advances, the iris becomes more dull and thicker, and the pupil more hazy; in short, that the unchecked inflammation is exhibiting its ravages on the structures of the eye. It might be considered a time for depletion, but it is not; though the application of a cupping-glass to the temple,

or a full bleeding from the arm, will pale the red and inflamed eye for a time, by unloading the vessels, and the patient see, perhaps, more clearly, the amendment is short-lived, the specific diseased action is there still, and soon resumes its work of destruction, which is only effectually checked by mercury. Directly the mouth is affected, the improvement begins, and persists.

"Relapses in syphilitic iritis are, it is well known, common, even after the iritis is apparently quite well. Sometimes only a little pale pink zone round the corner marks a tendency to return of the disease, with some contraction of the pupil; at others, the relapse consists in a full return of the disease as bad as ever, contracted, irregular pupil, dull, discoloured iris, loss of sight, and intense vascularity of both conjunctiva and sclerotica. The patient is, probably, under the influence of mercury at the time; he must be kept so, and the quantity rather increased, to produce a more decided action on the gums."

ART. 98.—*On Sympathetic Inflammation of the Eyeball.* By Mr. HAYNES WALTON, Surgeon to the City of London Ophthalmic Hospital.

(*British Med. Journ.*, April 11, 1857.)

We suspect that the instances are very few in which the practice of surgery has received any advancement from the exercise of the curative art in brutes; and, of all, we should expect less to be gathered from diseases of the eye, because but few are recognised, and because, for the most part, of the rude and unscientific and often barbarous treatment. But strange to tell, the horse-doctor has been in advance of the accomplished ophthalmologist, as we shall show. The modern student, whose reading, we fear, is too much confined to the hard, condensed manuals of the present day, is not aware that Mr. Wardrop, yet among the living, contributed a very great deal to the improvement of the art and science of surgery, and not less to the ophthalmic department. So long ago as 1819, he told the profession, in his valuable work 'On the Morbid Anatomy of the Human Eye' (a wonderful production in its time), that in a certain ophthalmic disease of the horse, farriers were in the habit of destroying the eye by suppuration, knowing well that the other eye, which is in great peril, could be saved by this means; they having been led to the adoption of the method from observing, that if the eye primarily attacked suppurated naturally, the other was spared invasion of the disease, or, if suffering, was yet rescued. More than this, that he had many times saved the second eye by adopting this practice, not as the professors of the veterinary art, by putting quicklime into the eye, or thrusting a nail in it, but by the more artistic method of cutting across the cornea and evacuating the humours. Then follows this sentence; "In some diseases of the human eye, where the disease makes a similar progress, first affecting one eye, and then the other, with complete blindness, the practice so successful in animals might, by judicious discrimination, be beneficially adopted."

ART. 99.—*On the Operation for Cataract in Gouty Persons.*
By Mr. WHITE COOPER, Surgeon-Oculist to St. Mary's Hospital.

(*Lancet*, April 11, 1857.)

"The operation of extraction," says Mr. Cooper in a recent clinical lecture, "is by some writers thought inadmissible for gouty persons. Some years ago, whilst under this impression, I depressed a cataract in the left eye of a gentleman so crippled with gout that he walked with much difficulty. He was a large, heavy man, and I had misgivings, after the operation, that the lens might be displaced by his jarring movements. It was so; subacute inflammation followed, and the eye was lost. With the right eye I determined to adopt a different course—namely, to perform extraction. The time selected was immediately after a severe fit of the gout had passed away. Extraction was performed under chloroform, and so well did the patient progress that he frequently said that, so far as his own sensations were concerned, he should not have known that an operation had been performed. The wound united well, and on the tenth day after the operation this gentleman left town with restored sight. If, then, you are called upon to operate on a gouty person, do so, if possible, soon after an attack, and especially avoid that time when malaise, irritability of temper, and other well-known symptoms, point to an impending fit. There is, however, a class of persons in whom I contemplate an operation with great misgivings—I mean those afflicted with "suppressed" or "irregular" gout, where the diathesis exists, but the system is never relieved by regular fit. Such patients require careful preparation for an operation on the eye, and it should only be performed when the weather is fine and mild, and the wind not east. Mr. Middlemore recommends a seton being placed in the arm of a gouty person a week before the operation, and the suggestion is not to be lost sight of."

ART. 100.—*On Hæmorrhage from the Eyeball.*
By Mr. WHITE COOPER, Ophthalmic-Surgeon to St. Mary's Hospital.

(*Lancet*, April 11, 1857.)

Two cases of this kind have occurred in Mr. Cooper's practice, and both in St. Mary's Hospital. Both occurred in old women—one of them a great sufferer from rheumatism. In answer to the question whether there are any means of diagnosing the hæmorrhagic cases before operation, Mr. Cooper says, "you will do well to regard with suspicion eyes presenting the following conditions:—Tense, hard globe, traversed by purple tortuous veins; sluggish or immovable iris; with perhaps one or two minute points of adhesion to the capsule of the lens; the existence of motes, flashes, and occasional dull aching at the back of the eye, with pains of the brow and cheek, the patient, at some time or another, having had gouty symptoms. You must bear in mind, however, that the pain, the muscæ, and other symptoms of disturbance, may have passed away, and will not be mentioned un-

less inquiry be made; yet their existence, in connection with the other symptoms, often indicates a varicose state of the choroid and of the retinal vessels, with perhaps degeneration of their coats.

"Dr. Gairdner has pointed out, that venous congestion is a common attendant on gout; my own observation coincides with this. A patient of mine, who lost his right eye from arthritic glaucoma, besides being a martyr to the gout in his limbs, underwent an operation on the throat; uncontrollable venous haemorrhage took place, and he died. A few weeks since, I removed an eye from a patient of Dr. Gairdner's; though the ball itself was cleanly dissected out by means of scissors and a strabismus-hook, (a proceeding which is generally almost bloodless,) there was profuse haemorrhage at the time, and the bleeding did not cease for three hours, in spite of the constant application of ice; the patient, however, recovered so rapidly that an artificial eye was introduced on the seventh day, and borne perfectly well. I mention these cases, because I believe that when bleeding does take place from eyes which have been the seat of chronic arthritic inflammation, it is likely to be obstinate.

"What is to be done to check the bleeding?—Pounded ice to the lid, gentle pressure if it can be borne, and gallic acid internally, are the best measures. If the globe fills with blood, it will be utterly destroyed; but cases are recorded where the bleeding has been slight, and recovery of sight has taken place. It is, therefore, very important to check it promptly. If the patient be old and feeble, and the powers of life failing, stimulants—as brandy—may be absolutely necessary; but the less the better. The very depression of the circulation may be the means of arresting the haemorrhage, whereas a too hasty administration of stimuli to keep up the pulse, may be the very means of defeating the main object. The room should be kept cool, the patient be carefully watched and kept absolutely quiet—the fewer persons admitted the better: the alarm and agitation of friends are an annoyance to the surgeon, and are hurtful to the patient.

ART. 101.—Source of the bleeding in operations upon disorganized Eyes. By Mr. HAYNES WALTON, Surgeon to the City of London Ophthalmic Hospital.

(*British Med. Journal*, April 11, 1857.)

It is often asked, whence comes the bleeding in operations on disorganized eyes, and the usual answer is, from the central artery of the retina. But Mr. Walton thinks differently. He supposes it to arise from the diseased and distended vessels of the choroid, which give way directly that the pressure to which their coats are accustomed is removed. Such bleeding, he says, never takes place when a healthy eye is operated on, that is, when there is no disease beyond cataract; but it will frequently ensue when the eyeball exhibits evidence of disorganization, and always when distended. Moreover, in the latter cases, it is not requisite to cut away any portions of the scleroteca or of the cornea to cause it; simple evacuation of the liquefied vitreous body by a puncture may be followed by copious haemorrhage. We

have heard him allude, in support of his theory, to severe bleeding after the extraction of cataracts from eyes, that plainly showed, from the discoloration and vascularity of the sclerotica, that there was general disease of the eyeball, cases in which the operation for extraction was inadmissible.

ART. 102.—*On the treatment of Strabismus.* By Mr. NORMAN.

(*Lancet*, Jan. 17, 1857.)

Having given a short sketch of the history of operation for strabismus as suggested by Stromeyer; of the zeal with which this practice was taken up in this country on its first introduction; of the great expectations that were formed of it, on the one hand, and the failures which were predicted on the other, and of which many undoubtedly happened,—the author contends that the latter were not such as to deter judicious surgeons from operating, but only to direct attention to their causes and their removal or avoidance. At first, nothing was known of the pathology of the affection, and not much had been added by actual demonstration of the state of the muscles of the eye. The operation rested upon a certain amount of analogy between strabismus and club-foot. The former, however, was almost always, if not always, a post-partum occurrence, and the consequence of disease; club-foot was produced in utero, and a result of imperfect development of the fœtus. In strabismus the individual action of the muscles was perfect, the associated ones only were not; in club-foot the regular and proper movements and position of parts could not be, under any circumstances, effected by the muscles. In most cases of strabismus there was no paralysis; nevertheless it was necessary, before undertaking operation, to be assured of this, as also that the affection was permanent—not maintained by any existing disease of the head or other part, nor a natural remedy for an opacity of the cornea. The specific objections that might be urged against the operation were—

1. That it failed altogether.
2. It made matters worse, causing too great prominence, with eversion in internal, and inversion in external, squints.
3. Inflammation and suppuration of the wound.
4. The formation of sprouting granulations or excrescences.
5. Inflammation and suppuration of the globe.

Failure to effect a change was due to want of proper caution in selecting and rejecting cases, or to the non-division of the distorting muscle. The new displacements were due to dividing more than the offending muscle, and other like causes generally avoidable. The inflammatory sequelæ might be almost uniformly escaped by avoiding rude and unnecessary proceedings in operating. Sub-conjunctival division of the muscle would probably never be attended by any of these consequences except the first, namely, imperfect division of the muscle and failure. Many efforts had been made to bring operative procedures to perfection in these cases. It was an important point gained when it became clearly known that no good was to be gained

by dividing the oblique muscles and other muscles and parts not concerned in the case. Sub-conjunctival sections, from M. Guérin's first suggestion to the present time, had not been productive of much good, chiefly from the difficulty found in adapting a knife to the work. This desideratum, it was hoped, would be supplied by Mr. Holthouse, who had bestowed much attention on the subject. Mr. Critchett's sub-conjunctival method is then described, in the language of the inventor's pamphlet on the subject; and Mr. Norman gives the histories of two cases, in which he has lately made trial of that method, with a success that had quite satisfied himself and the patients. The first of these was in a girl of fifteen, who had squinted nine years, and could not make out the letters of a large type *singly* without difficulty, and could positively not count two letters together; and, in addition to this, was unable to estimate the distance of objects correctly, so that, in placing things on a table, she was apt to let them fall to the ground. The operation resulted in a very great improvement of the person, so that in a fortnight no squint nor sign of operation remained, and the sight was much benefited, and is now perfect as in the other eye. The second was in a boy of eleven years, whose squint had existed eight years, and was attended with almost complete want of sight. In this case the operation was followed by great improvement of the person, and by a partial, but progressive, increase of visual power, although not to be compared with that of the former case. This method of operating (with scissors) was not liable to some of the objections existing to the other sub-conjunctival methods, but was decidedly more difficult than the ordinary operation. It was entitled to a full trial by those who have the opportunity, although, in the opinion of the author, the old method first practised by Lucas, Duffin, and others, taking care to avoid known errors, would be in most suitable cases a very successful and beneficial operation. These operations, now not much talked of, were all well deserving to be borne in mind.

ART. 103.—*On the operation for Strabismus.*
By Dr. THOMAS GRAHAM.

(*North American Med.-Chir. Review*, March, 1857.)

"The essential principle of this operation," says Dr. Graham, in an able paper on strabismus, "consists in the division of the muscle sub-conjunctivally. This, it will be remarked, is not altogether a novel suggestion; it has been recommended by M. Guerin, and has been attempted with more or less success by several surgeons in England; but it has been found difficult, and sometimes impracticable in consequence of a defective method of procedure. Thus it is suggested to draw the eye forcibly outwards, so as to render the internal rectus tense; then to introduce a small bistoury beneath the muscle and divide it. Any one who has attempted the operation in this way, will agree with me that it is one of extreme difficulty; the loose capsule round the muscle prevents the edge of the knife from acting upon the tendon, nor can the latter be made sufficiently tense to be thus divided.

The difficulty and uncertainty of this operation have resulted in its having been rarely attempted, more rarely accomplished, and *never repeated* by the same surgeon. The method that I propose, and that has been performed by myself and some of my medical friends in Sydney, Australia, in a large number of cases, is the following: Having placed the patient, if nervous or restless, or very young, under the influence of chloroform, the eyelids fixed open with a spring speculum, and the globe everted by an assistant seizing the conjunctiva near the outer margin of the cornea with a pair of forceps, the operator pinches up the conjunctiva at a point corresponding to the lower border of the internal rectus, and makes a small opening with a pair of rather strong, blunt-pointed scissors. He then seizes the subconjunctival fascia, and divides it to the same extent, so as to clearly and cleanly expose a small surface of sclerotic. The ordinary strabismus blunt hook, bent at right angles, is now made to sweep round the globe, so as to pass beneath the muscle; this requires care, and a little practice is essential to success, and may be known to be accomplished by the peculiar elastic resistance that is felt: the blades of the scissors are next passed through the opening, and by a succession of small cuts, the tendon may be readily divided between the hook and the insertion into the sclerotic, and close to the latter; the clipping of the tendon may sometimes be recognised by the peculiar creaking sensation imparted to the scissors. Some little difficulty in making a complete division is experienced when the insertion of the tendon is rather broad, in which case, I am in the habit of making a small counter-opening in the conjunctiva corresponding to the upper border of the muscle, introducing the scissors from above, and having passed one blade beneath the remaining slip of tendon, dividing it in the same direction. This counter-opening has the advantage of facilitating the escape of blood that may have become infiltrated beneath the conjunctiva, and does not in any way interfere with the principle and aim of the operation, which is to leave a broad band of conjunctiva between the cornea and the inner caruncle intact. The advantages of this plan, as contrasted with the old one, seem to me to be very great. It has, in the first place, the merit possessed by all subcutaneous sections, of immunity from much subsequent inflammation and suppuration, and is, therefore, followed by a very rapid and certain cure; no granulations ever form, and the caruncle maintains its natural position, and does not shrink away into a deep fossa, as is invariably the case when the usual operation has been performed. I may also state that, as far as my experience yet goes, increased prominence of the eye is more rare, eversion never occurs, and the natural movements of the eye are more complete. This I attribute to the fact, that the ocular fascia is but little interfered with, and that a good firm union takes place between the divided muscle and the globe of the eye."

ART. 104.—*On the pathology of the Ear.* By Mr. TOYNBEE, F.R.S.

(*A descriptive Catalogue of Preparations illustrative of the Diseases of the Ear in the Museum of Josh. Toynbee, F.R.S., London, 8vo, Churchill, 1857, pp. 128.*)

Since the year 1839, Mr. Toynbee has examined no less than 1659

ears; namely, 272 diseased ears of deaf persons, the history of whose cases was known to him; 223 diseased ears of deaf persons, the history of whose cases was unknown to him; 654 diseased ears, to which no history was attached; and 510 healthy ears. And the results of this patient and most praiseworthy investigation are to be found in this catalogue.

The several results to which Mr. Toynbee has been led are—

1. The discovery of the existence of osseous tumours in the external meatus and their structure.
2. The detection of the presence of molluscous tumours in the external meatus; a disease which, in consequence of the accompanying discharge of mucus, has hitherto been confounded with "otorrhœa."
3. The abolition of the terms "otitis" and "otorrhœa," and the substitution of names indicating the tissue affected, and the peculiar nature of the affection.
4. The discovery of the existence of the dermoid layer of the membrana tympani, which plays so important a part in the diseases of that membrane. It was previously supposed that the epidermoid layer was in direct contact with the fibrous layers.
5. The ascertaining of the true relations of the two fibrous laminæ of the membrana tympani, and the existence and offices of the "tubular tensor tympani ligament."
6. The construction and application of the artificial membrana tympani in cases of perforation or destruction of the natural membrane.
7. The demonstration that the functions of the ossicles are analogous to those of the iris of the eye, modifying the access of sonorous vibrations as the latter does the undulations of light, attuning the labyrinth for the reception of either loud and harsh, or very low and very delicate vibrations.
8. The establishment of the existence as a disease of membranous and osseous ankylosis of the stapes to the fenestra ovalis, one of the most common causes of deafness.
9. The proof that the Eustachian tube remains always closed, except during the momentary act of swallowing, when its muscles cause it to open.
10. The use of the "otoscope" as a means by which the condition of the Eustachian tube may always be diagnosed, without the use of the Eustachian catheter.
11. The various diseases which give rise to caries of the petrous bone, and implicate, in their progress, the dura mater, the cerebrum, and the cerebellum, have been described, their nature and extent indicated, and means for their amelioration suggested.

ART. 105.—On Bleeding from the Ear as the result of violence applied to the chin. By M. A. MORVAN.

(*Archiv. Gén. de Méd.*, Dec., 1856.)

After a careful examination of several cases, M. Morvan arrives at the following conclusions:

Hæmorrhage from the ear resulting from violence applied to the chin, may be or may not be accompanied by laceration of the membrana tympani.

According to the case, the injury will be either fracture of the glenoid cavity, or fracture of the petrous portion of the temporal bone, or both combined.

When there is hæmorrhage from the ear without laceration of the membrana tympani, we may discard the idea of a broken petrous portion of the temporal bone; and the probability is, that the injury is only a fracture of the glenoid cavity.

When the glenoid cavity is fractured, besides the hæmorrhage from the ear and the entire state of the membrana tympani, the articulation of the jaw is generally so sensitive, that deglutition and mastication are either extremely difficult or altogether impossible.

When the petrous portion of the temporal bone is broken, there is usually laceration of the membrana tympani, as well as hæmorrhage from the passage.

If the glenoid cavity and the petrous portion are alike broken, there will be not only bleeding from the ear and laceration of the membrana tympani, but also difficulty of masticating and swallowing.

ART. 106.—A self-adjustable Artificial Tympanum.
By Mr. YEARSLEY.

(*Medical Times and Gazette*, Dec. 20, 1856.)

In this communication Mr. Yearsley describes a very simple method, in which the patient himself, however timid, may apply the cotton-wool substitute for the membrana tympani, which was first proposed in 1848.

"The invention," says Mr. Yearsley, "of which I have now to speak, consists of a silver tube of small calibre, from an inch and a half to two inches in length, and a small piece of cotton to which is attached a soft pliant thread, of two inches or a trifle more in length. The silver tube is provided with a hook at one extremity to entangle the cotton, if by any chance it should get disengaged, a circumstance not very likely to happen. The woodcut represents the tube of the proper length, with the cotton well wetted, drawn through it, and the thread protruding at the hook extremity, all ready for use.



Directions.—The thread is to be drawn through the tube, so as to bring the cotton steadily against its extremity, then having wetted the cotton in tepid water, introduce it into the passage of the ear, holding the tube and the thread at the same time with the finger and thumb, then move the cotton about at the bottom of the passage until it reaches a spot which, when touched, produces the improved hearing; this being attained, let go the thread, and gently withdraw the tube over it, leaving the cotton in the ear; finally cut off the projecting thread, or turn it into the outer cavity of the ear. Should the cotton fall from its proper position, and the improvement of hearing be lost, it may easily be re-adjusted by

using the tube as a common probe, and with it, lifting the cotton into its place.

"General observations."—For cleanliness' sake, the cotton should be changed daily, and unless the discharge be very profuse, it is better not to interfere with it before applying the cotton. One of the happy results of the continued use of this remedy is, to *cure* the discharge of the ear. On this, if on no other account, cotton wool will always have the preference over other substances, in this peculiar mode of treating deafness. Its chief advantages over every other material may be thus enumerated :

" 1. It is more easily applied. 2. It is simple, safe, and cleanly. 3. It retains its proper position longer. 4. It causes no irritation. 5. It produces no noises in the ear whilst eating or talking. 6. It is more agreeable to the feelings of the patient. 7. It produces the highest degree of hearing of which a patient with perforated membrana tympani is susceptible. 8. It cures the discharge of the ear which usually attends loss of the membrana tympani. This result is so uniform, that I have ceased for some years past to treat ordinary cases of otorrhœa by injections, preferring to relieve the patient of the discharge by the use of wet or dry cotton, more especially as the hearing is almost always benefited by this mode of cure, whereas the sense suffers by the application of astringent injections.

" In rare cases, owing to rough usage in the application of the wetted cotton, the ear becomes irritated and rebels, as it were, against its use, but beyond the tenderness which is felt by the patient, no other inconvenience arises, and never any injury to the ear; while this stage of irritation lasts (generally two or three days), it is better to discontinue the cotton, and soothe the ear by fomentations and poultices. Strange to say, this irritation seldom or never recurs, and the ear ever afterwards quietly submits to the presence of the remedy.

" Three or four experiments will generally enlighten the patient as to the proper size of the cotton for his individual case. Success is generally made manifest to the patient by a click or pop, arising, as I believe, from the bursting of a small bladder of air formed by the discharge which is usually present. Sometimes it is necessary to lift up the cotton after it is introduced, which, as I said before, can be done with the silver tube used as a probe, for it is a *sine quâ non* that the cotton should *not* entirely cover the opening into the cavity of the tympanum.

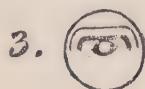
" It is evident that unless some noise is going on of uniform loudness at the time of the experiment, the patient would experience a difficulty in estimating the success of the remedy. In my own consulting room, I have an instrument which I have called an *acoemeter*, having gradations of sound, and this is set going before commencing and during the application of the cotton. The patient is then directed to make some sign the moment success is attained. A metronome would answer the same purpose, and in the absence of any instrument of the kind, scraping the floor with the foot, rubbing the hand over the clothes, or snapping the finger and thumb while manipulating, will be sufficient to indicate to the patient the attainment of his wishes."

ART. 107.—*A new Suture for Hare-lip, &c.*
By Mr. Wood, Surgeon to the Gloucester Infirmary.

(*Medical Times and Gazette*, Jan. 3, 1857.)

“Many years ago,” says Mr. Wood, “I witnessed several failures following the use of the needle and twisted suture, which induced me to consider whether any other appliance could be substituted.

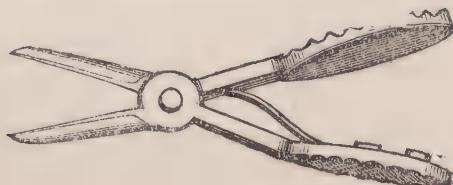
“In reflecting on the probable cause of failure in the cases to which I have alluded, it appeared to me that the rigidity of the needle, and the unavoidable compression of a portion of integument between it and the twisted suture, more especially at the point where the two are connected, produced a restraint and a pressure beyond that which was required simply to keep the edges of the lip in apposition, and thus occasioned an unnecessary source of irritation, tending to inflame and ulcerate the parts so constricted and compressed; and, if the plan which I now submit be an improvement, I think this is mainly owing to the avoidance of these objectionable circumstances.



“In place of the needle I employ a pair of silver discs. Each of these has a perforation in the centre. Across the back of one of them a portion of silver wire of suitable form is soldered, and is thus attached by its two ends, while the intervening portion lies over the perforation in the disc, leaving a free space on each side for the passage of threads. (Fig. 1.)

“A similar piece of wire is attached by a hinge to the other disc, so as to admit of being opened and closed, or rather, to speak more correctly, of being raised and lowered on the back of the disc. (Fig. 2.)

“The needle which I employ exactly resembles that sold in the shops as a darning-needle, No. 4; and it is armed with a double ligature of soft silk, five or six inches in length. To carry this needle a small forceps, which I have had constructed for the purpose, will be found very useful.



"Preparatory to the operation, the two free ends of the ligature (which has been previously threaded on the needle) are passed through the aperture in the disc (fig. 1); so that one end may pass out on each side of the silver wire, over which they are then secured by a knot.

"The opposite edges of the fissure being now pared as usual, the needle is introduced as the hare-lip needle would be; but it is then drawn through, as well as the ligature, until the disc is brought up firmly against the lip.

"Disc, fig. 2, the wire being opened upon its hinge, is now threaded upon the ligature, and the needle being cut away, the ends of the ligature are separated, and the hinged wire closed down between them; and the pared edges of the fissure having been brought firmly into apposition, the second disc is slipped up close against the lip, and the threads of the ligature are tied over the silver wire. The ligature is then complete.



"I conceive that this ligature affords an additional advantage over the needle and twisted suture, in facilitating the application and rendering more efficacious the operation of such auxiliary supports as it may be thought desirable to employ; and I believe that, in every case, it may beneficially supersede the twisted suture, than which it un-

doubtedly produces much less constriction and irritation of the parts included.

"Also, in closing the edges of wounds made in the great operations, where ligatures seem desirable; and in cases where deep sutures are required, and where the quilled suture is customarily employed, as in the operation for the cure of lacerated perinæum, I think that the discs and double ligature may be used with advantage. For these purposes I have had discs constructed of larger diameter (figs 3 and 4), and adapted to the curved needle requisite for these proceedings."

ART. 108.—On some of the effects produced by Carious Teeth.
By Mr. SAMUEL SMITH, Senior Surgeon to the Leeds Infirmary.

(*Lancet*, Feb. 14, 1857.)

The following cases are taken from a clinical lecture recently delivered at Leeds. They are of considerable interest as directing attention to some ill effects arising from carious teeth which are too often overlooked by practitioners.

CASE 1.—Elizabeth H—, æt. 40, was sent from some distance in the country to this infirmary, December 12th, 1856, to be treated for what she was told by a medical practitioner was a cancerous tumour in the cheek. On examination, a tumour, the size of a small chestnut, was found, with an ulceration of the mucous membrane, just fitting the sharp edge of one fang of a carious molar tooth of the lower jaw, which was making its way from the gum. Being fully assured, from former experience of many cases of a similar kind, that this was the sole cause of the tumour and ulceration, I removed the tooth, and promised her it should be well in a few days. A little lotion was ordered for the mouth. She appeared again on the next out-patient day, December 17th. The ulceration was healed, the tumour gone, and she was discharged cured.

CASE 2.—A gentleman from a distant town, where there is a large hospital, happened to have his leg broken in Leeds, and was in lodgings under my care. His wife came to attend upon him, and she consulted me about an ulcerated tumour in the cheek, which had existed a long time, and for which she had had the advice of several surgeons, and various applications used without advantage. I detected one fang of a carious molar of the lower jaw laid horizontally on the gum, but adherent and embedded in it, with the ragged pointed fitted into the centre of the tumour. I pushed it away with my pencil case, and the tumour disappeared in a few days. Both these patients were under the impression that they were suffering from cancerous disease.

Sometimes, instead of the cheek, the tongue suffers from the same cause. I have detected many cases of this kind. One interesting example shall be sufficient to explain such cases.

CASE 3.—More than thirty years ago, one out-patient day, my senior colleague (Mr. Hey) informed me that a few days previously he had incised a malignant-looking tumour from the tongue of a young country-woman, who was a private patient of his; that, to his surprise, in a few days the tumour had sprouted out as large or larger than before the operation; that, as she was not in circumstances to pay consultation fees, he had requested her to be in the house-surgeon's room at twelve o'clock, in order that he might ask

Mr. Chorley's opinion, along with my own, on the case. On that day Mr. Chorley did not come to the infirmary, and I went with Mr. Hey to see his patient. There was a foul, dark, fungoid tumour, which occasionally bled, and from which she suffered much pain during every attempt to speak or masticate food ; it was the size of a small walnut. On examining it with the finger, I detected two broken incisors (the middle and left lateral of the lower jaw) leaning inwards, and with sharp-pointed edges fitting into the centre of the tumour. I was immediately convinced that these two teeth were the cause of all the mischief, and stated that opinion to Mr. Hey, who appeared doubtful. I said that he would not be justified in applying the ligature, or using any other means, without first waiting to see the effect of the removal of the two broken carious teeth. I never saw the young woman again, but I was informed by Mr. Richard Hey, that the teeth were drawn, and soon afterwards the tumour entirely disappeared, without any other means being resorted to.

Sometimes carious teeth produce abscesses in the cheek, neck, and throat ; these burst or are opened, and form fistulous sores, which will remain unhealed for months and years unless the cause be removed, just in the same manner as you see fistulous openings in the leg in cases of necrosis, and which remain open for years until the sequestrum is removed.

CASE 4.—Soon after I commenced practice, I frequently met a young gentleman of fortune walking about with a piece of black plaster on the left cheek, as large as a dollar. I often wondered what could be the matter, but not being his attendant I had no business to inquire. After suffering the annoyance of his black plaster for a very long time, and being in London, a friend persuaded him to consult Sir Astley Cooper. He made very short work with him, took his fee, and sent him to a dentist to have a certain upper molar removed, informing him that he would be well in a few days after. His prognosis was verified by the result. This young gentleman is now an old one, and I occasionally meet him ; he has never worn his black plaster since, but he has the appearance of a Peninsular veteran who had received a musket-ball in the left cheek.

CASE 5.—A few years ago a middle-aged man, residing in the south, and who travels every year with surgical instruments on sale, after transacting business with me, asked my opinion about a fistulous sore which opened on the middle of his whisker on the right cheek. I introduced a probe, and came in contact with the fang of the last molar tooth of the upper jaw. I persuaded him to allow me to draw it, on the promise that he should be well in a few days. I requested him to write by post on the tenth day, and let me know the result. He wrote to say the discharge ceased the day the tooth was drawn, and that it was perfectly well. Now, here was the case of a person in constant communication with surgeons, selling them daily caoutchouc instruments of his own manufacture. He had suffered for a long period, had often taken advice, but had never had the true nature of his disease pointed out to him.

CASE 6.—Seven or ten years ago a young woman came under my care at the infirmary with a fistulous sore in the fore part of the throat, within an inch of the sternum. It had been discharging upwards of a year. I probed it ; the instrument could be passed in the direction of the molar of the lower jaw on the left side. On inquiry, she said that eighteen months before she had had a tooth drawn at the dispensary, but the fangs of the tooth were left in the jaw. Afterwards an abscess formed, which descended lower and lower till it burst midway between the sternum and pomum Adami. I drew the stumps ; it still discharged for a week or ten days, when it got well without

any other treatment. I mention the above case to impress on your minds the possibility of the fistulous orifice being at a considerable distance from the offending tooth. The fistulous sores proceeding from carious teeth are generally on the cheek or at the angles of the jaw. On the application of the probe you will often find the instrument pass readily to the interior of the mouth; you have then only to select the proper victim for sacrifice, and you will rarely err in this respect. Where the sinus from the sore to the tooth is short, the discharge from the external sore will generally cease in a day or two after the extraction of the tooth, but where it is long, as in the above case, it may be a week or two.

There is an excellent old adage—"Prevention is better than cure." This applies well to surgery, and especially to such cases as we are alluding to; for as abscess in these cases always precedes the formation of a fistulous sore, it should be your endeavour to detect these cases at this particular period. I find that several cases of this kind come under my observation every year; the last, during the present month.

CASE 7.—Thomas K., an Irishman, æt. 50, was admitted as an out-patient on the 2d of January. His case is set down as abscess in the cheek. The jaw was closed: he could not open his mouth. He came again on the 7th, no better; and it was not till the 14th, that I detected the true nature of the case. I examined the mouth, and found two detached fangs of a molar of the lower jaw carious and loose; he could not open the mouth sufficiently for the introduction of forceps, but I pushed them out with a punch.

January 21st.—He says he could open his mouth comfortably the following day; the swelling had gradually subsided, and he was discharged, cured.

CASE 8.—A long time ago, a near relative consulted me about an abscess at the angle of the jaw, on the right side. I suspected its cause, for on pressure I could make pus appear at the edge of one of the molars. He refused to have the tooth drawn until I assured him the abscess would burst externally, and continue discharging till the tooth was removed, and that an ugly scrofulous-looking cicatrix would remain for life. The tooth was drawn; the abscess discharged itself into the mouth, was soon well, and left no mark.

Now in both these cases, if the cause had not been detected when it was, in ten or twelve days the abscess would have burst externally, and a fistulous sore would have been the consequence, which would have continued discharging until the teeth had been removed either by nature or art. I have seen scores of such cases. Whenever you extract a tooth in these cases, always examine it carefully; you will invariably find the fang deprived of its periosteum, and sometimes a little sac attached to its root, containing pus.

Sometimes, where abscess forms from a carious molar of the upper jaw, the matter, instead of making its way to the cheek, gets into the antrum. I have seen several cases of this kind, and have at present a private patient under treatment. Remove the tooth, and if this does not give a sufficient outlet for the matter, perforate the antrum with a joiner's gimlet. There has been a very interesting case of this kind recorded in the journals during the present month.

CASE 9.—A horse was condemned to the knacker's yard as being afflicted with glanders, having a foul offensive discharge of purulent matter from the nostrils, and being in the last stage of emaciation. A veterinary surgeon finding it could not masticate its food, examined its mouth, and detecting a

carious tooth in the upper jaw, extracted it. The discharge ceased; the horse soon began to thrive and got well. Here was a case in which there was as much professional credit due to the surgeon as if instead of saving a horse from the knacker's yard he had saved the life of an alderman.

ART. 109.—*On the treatment of Ranula.* By M. GOSSELIN.

(*L'Union Médicale ; Boston Medical and Surg. Journal*, Dec. 4, 1856.)

M. Gosselin, after alluding to the various modes of treating ranula that have been adopted, and the relapses that are so common after them, describes the plan that he has himself found beneficial. He first of all performs excision, as recommended by Boyer, and then cauterizes with the nitrate of silver. Next day he introduces a probe into the wound, owing to its tendency to close, and repeats the cauterization the day after that. On the third or fourth day he enlarges, by means of the scissors, the aperture, which has become too narrow, and on the following day cauterizes again. After ten or twelve days of this assiduous attention, if, on the introduction of a probe, he finds the cavity is obliterated, he leaves the opening to itself. If, however, a track of a certain extent still exists, he again enlarges the orifice with scissors. This attention to the case is rarely required beyond fifteen days, when the external opening becomes closed, and the cavity being obliterated, there is no fear of relapse. M. Gosselin has operated in this way in several cases, and in three of these, which he has watched for several years, no relapse has ensued, the opening remaining closed. This plan of procedure has also been extended to various analogous cases, in which there is a cavity with secreting walls, having no spontaneous tendency to approach each other.

ART. 110.—*On a grooved hook for Tracheotomy.* By Mr. T. SPENCER WELLS, Surgeon to the Samaritan Hospital, &c.

(*Medical Times and Gazette*, Feb. 28, 1857.)

"This instrument is represented in the annexed woodcut. It is simply a grooved hook or tenaculum, the groove running along the convexity. It was devised by M. Chassaignac, and described by him in his *Leçons sur la Trachéotomie*, published in 1855. It has not been made known, so far as I am aware, in this country, and as it supplies us with a simple, certain, safe, and rapid means of fixing the trachea, I think it worthy of attention from British surgeons.

"Nothing can be easier than the performance of tracheotomy in the dead subject, or on patients so far asphyxiated, or in such a state of syncope, that the trachea is motionless. But while respiration is going on, the trachea ascends and descends with each expiration and inspiration—to a slight extent, it is true, when respiration is normal, but in a very different degree when it is obstructed. This mobility of the trachea may not cause any great difficulty in opening it if the patient be an adult, but those who have been called upon to perform tracheotomy on a young child with a short, fat neck, know well how

very desirable it is to be able to fix the trachea. Cases are on record in which surgeons have been actually unable to open the canal. In

other cases the important vessels on either side have been wounded. The knife, during some sudden motion of the patient, has traversed the trachea and wounded the œsophagus, the accident being followed by the escape of fluid and solid aliments into the trachea, or the knife has passed too close to the sternum and wounded the innominata. Still more commonly the trachea has not been opened in the centre, but to one side, so that the wound in the skin and the tracheal opening have not corresponded, and there has been difficulty in fixing the canula. Lastly, even supposing the incision to have been properly made in the trachea, there has been delay and difficulty in the introduction of the canula. Who has not seen, that as soon as the trachea is opened, and before the surgeon has had time to separate the divided edges and introduce the canula, the patient cough and sob, and a little blood passing into the air-passages, at once begin to cough spasmodically, bespatter the bystanders with bloody mucus, and appear to suffocate, while the surgeon is vainly endeavouring to fix the trachea, and possibly the patient may be dead before the canula is introduced? Such things have been.

"All these difficulties and dangers may be avoided by the use of M. Chassaignac's grooved hook. In a case where there is no necessity for speed, the trachea may be laid bare by incision, but let us take one where no time must be lost. The cricoid cartilage is the point to be fixed. This is a certain guide, as it can be felt always however young or fat the patient may be. It is the only complete ring in the tube, and therefore resists pressure while all the rest of the tube yields before the finger. The finger is passed upwards from the sternum in the median line until the resisting cricoid cartilage is felt. It is immediately beneath the lower border that the hook is to



be inserted. The nail of the left index finger marks the lower edge of the cartilage, and the hook held in the right hand is passed close to the nail directly into the trachea. The only difficulty in doing this is from the skin moving over the cartilage, but this may be avoided by a simple puncture. When the hook is in the trachea the handle is made to describe half a circle, and is brought up to the centre of the patient's chin, so that the cricoid cartilage being held firmly, the trachea may be drawn upwards and forwards well out of danger. A little air and bloody mucus escaping along the groove is a certain sign that the hook is in the trachea. This being the case, of course nothing is more simple than to pass a knife along the groove and divide three or four of the tracheal rings. By holding the hook

in the left hand and the knife in the right, the operator has the most perfect command of the trachea, not only for the incision, but for the dilatation of the wound and the introduction of the canula.

"I am quite aware of the objections which may be made to the introduction of a new instrument; such as its being unnecessary, the operation having been very well done with a penknife and a quill, or a scalpel and a piece of bent wire—that the instrument would never be at hand when wanted—and so on; but while admitting that the surgeon should be prepared to act with the simplest tools in case of emergency, I think any one who has tried M. Chassaignac's hook once would be disposed to do so again, and nothing would be easier than to add a groove to the ordinary tenaculum of the pocket case."

ART. III.—On the "ready method" in cases of Choking.
By Dr. MARSHALL HALL.

(*Lancet*, Jan. 17, 1857.)

"Death in choking, is the result of a diastaltic spasmodic closure of the glottis.

"Nothing can be done in this stage of the accident, except, 1, to endeavour, by introducing the finger into the fauces, to induce vomiting; 2, to introduce something *like a bougie* into the oesophagus, (a firm scroll of linen being the readiest;) or, 3, to adopt a measure, which I adopted on an emergency, with immediate success, some years ago.

"A little boy, eating some fowl in haste, attempted to swallow too large a morsel, and was choked; I ran to him, placed him between my knees, one knee (the right) pressing firmly on the stomach, the other on the back; I then placed one hand (the left) on the back of the thorax, whilst I gave a firm blow with the other on the sternum. In an instant I had the joy of seeing the morsel of chicken expelled with force to a considerable distance; and all was safe!

"But supposing all these efforts to fail. What is then to be done?

"In the midst of the asphyxia induced by the closure of the glottis, the excito-motor power fails, and the larynx is no longer spasmodically closed; and now the 'ready method' may be adopted, with the effect of sustaining life, until such a bougie is made as shall be effectual in pushing down the morsel of food or other object in the pharynx or oesophagus.

"A firm scroll of cotton or linen, when imbued with grease, made from a sheet, a window-blind, or curtain, may then be made, not in too great haste, and be boldly passed into the oesophagus.

"The morsel of food is generally lodged in the pharynx, or *upper* part of the oesophagus, and, when found lower down, ceases to excite reflex action of the larynx; and breathing is, therefore, possible.

"A thin bent tallow-candle, or a piece of firmish *cord*, (taken from the window-frame,) might answer the purpose of the bougie.

"The 'ready method' procures us the *time* necessary for obtaining or preparing *any* of these means, and for giving full directions to the

assistants. In performing it, a little brisk movement may be adopted in pronation, and in making dorsal pressure, which may, if not at first, eventually, dislodge the foreign body.

"I need scarcely suggest that this last measure should also be enforced in cases of a foreign body inhaled into the larynx both *before* and *after* tracheotomy, with the addition of a firm blow, with the open hand, on the back."

ART. 112.—*Complete Dislocation of the Cervical Vertebræ, and successful reduction on the tenth day.* By Dr. DANIEL AYRES, of Brooklyn, New York.

(*New York Journal of Medicine, Jan., 1857.*)

This case is accompanied by two coloured lithographs representing the appearance of the patient before and after reduction, and by a somewhat comprehensive review of the literature relating to the subject.

CASE.—E. K., the subject of this accident, was a labouring man, æt. 30, tall and muscular, but not fat, with a neck longer than the average among men of equal height. On the evening of the 2d of October he became intoxicated, was brought home insensible, and did not recover from the combined effects of the shock and his libations until the following morning, when he was supposed by his wife to be labouring under cold and a stiff neck. She made some domestic applications to the affected part, and administered a dose of cathartic medicine. When it was thought sufficient time had elapsed without obtaining relief, he was seen by Dr. Potter, of this city, and afterwards by Dr. Cullen, both of whom recognised a condition which was not only very unusual, but one which they had never before observed. I was then requested to examine the case, which I did on the ninth day after the accident. With some assistance and great personal effort, he was able to get out of bed, moving very slowly and cautiously. Desiring to expectorate, he was obliged to get down on his hands and knees, which he accomplished with the same deliberation. When seated in a chair, the head was thrown back and permanently fixed; the face turned upwards with an anxious expression. The anterior portion of the neck, bulging forwards, was strongly convex, rendering the larynx very prominent. The integuments of this region were exceedingly tense and intolerant of pressure. The posterior portion of the neck exhibited a sharp, sudden angle at the junction of the fifth and sixth cervical vertebræ, around which the integuments laid in folds. It was difficult to reach the bottom of this angle even with strong pressure of the fingers, and of course the regular line formed by the projecting spinous processes was abruptly lost. He complained of intense and constant pain at this point, which was neither relieved nor aggravated by pressure. With difficulty he swallowed small quantities of liquid, pausing after each effort, and could not be induced to take solid food, since the first attempt to do so after the accident was followed by violent paroxysms of coughing and choking. His breathing was obstructed and somewhat laboured, being unable fully to clear the bronchia of their secretion. This, however, seemed rather an effect of the tense condition of the soft parts of the neck, than the result of pressure upon the spinal cord, since he presented no evidence of paralysis, either of motion or sensation, in parts below the neck. The sterno-cleido-mastoid muscles of both sides were felt quite soft and relaxed.

But one conclusion could be formed upon this state of facts, to wit: that the oblique processes of both sides were completely dislocated. The marked rigidity of the head seemed to preclude the probability of fracture through the vertebral bodies; and although the cartilage might be separated anteriorly yet, the body not pressing backwards sufficiently to produce paralysis of the cord, it was hoped that the posterior vertebral ligament remained uninjured; it was, therefore, determined to make an effort at reduction on the following day. In addition to those originally connected with the case, I am under obligations to Drs. Ingraham, Turner, Palmedo, G. D. Ayres, and a number of other medical gentlemen who were present by invitation, all of whom confirmed the diagnosis, and rendered efficient services:—

The patient was placed upon a strong table in a recumbent position, with a pillow resting under the shoulders, the head being supported by the hand during the administration of chloroform, of which an ounce was given before anaesthesia ensued. Counter extension being made by two folded sheets placed obliquely across the shoulders and properly held, the head was grasped by one hand placed under the chin, the other over the occiput, and by steadily and firmly drawing the head directly backwards, and then upwards, an attempt was made at reduction, but failed for want of sufficient power. Dr. Ingraham was then requested to place his hands immediately over my own in the same position as before, and steady traction was again made in the same direction. Our united strength was required in drawing the head backwards and upwards, to dislodge the superior oblique processes from their abnormal position. When this was felt to be yielding by Dr. Cullen (who kept one hand constantly at the seat of dislocation), Dr. Potter was directed to place his hands under our own, still in position, and assist in bringing the head forward; at the same time the chest was depressed towards the table. The bones were distinctly felt to slip into their places; the line of the spine was instantly restored, the head and neck assuming their natural position and aspect. As soon as the patient became conscious, he expressed himself ignorant of what had taken place, but free from pain, and, in his own language, "all right." A bandage was arranged to support the head and keep it bent forward. He had an anodyne for two nights following, after which no further treatment was necessary, and at the end of one week he had complete control over the movements of the head and neck. Beyond the debility and emaciation immediately dependent upon protracted fasting and loss of rest, he has experienced no uneasiness since the operation. His appetite is now good, and all the functions perform their duty normally. In a subsequent inquiry, to determine if possible the cause of the accident, he states that he distinctly recollects going into a store in Atlantic Street, near the ferry, and there having angry words with an acquaintance; that he left the store and was proceeding up the street (which is here a rather steep ascent), when he was violently struck from behind, over the lower portion of the neck. He likewise remembers falling forward and striking against some object, but does not know what it was, nor what took place until the following morning.

(B) CONCERNING THE CHEST, ABDOMEN, AND PELVIS.

ART. 113.—A case of fracture of the neck of the Scapula, and of the Coracoid Process. By Mr. BRODHURST, Assistant-Surgeon to the Royal Orthopædic Hospital.

(*Medical Times and Gazette*, March 7, 1857.)

Accidents of this kind are of considerable rarity, as is evident in the fact that Sir A. Cooper did not meet with one in the course of his practice, and that Mr. South, in his edition of ‘Chelius’ Surgery,’ has expressed a doubt as to its existence. In addition to his case, Mr. Brodhurst cites one from Du Verney’s ‘Traité des Maladies des Os.’

1. *Mr. Brodhurst’s case.*—A gentleman, æt. 62, was thrown from hs horse in the hunting-field during the season 1854–55. He is a muscular man, weighs twelve stone, and is five feet ten inches in height. At the time of the accident he was riding with the pack in full cry, when his horse, setting his foot in a hole, fell. The rider was thrown on to his right shoulder, and fell clear of his horse. I saw him soon after the accident, and found the acromion very prominent, with a deep depression beneath it, the deltoid flattened, the arm lengthened and drawn away from the side. The shoulder could be restored to its normal shape, and the arm be brought close to the side, on raising the arm, the scapula being fixed with one hand and the elbow grasped with the other; but the deformity recurred so soon as the support was removed.

Every motion of the limb was acutely painful. Crepitus was very distinct on moving the scapula, having raised the humerus. But crepitus might also be felt, though less distinctly, without raising the humerus to its proper position. The coracoid process was also fractured. It afforded crepitus entirely distinct from that which was communicated from the neck of the scapula.

The limb did not present the appearance of a dislocation of the humerus into the axilla, and the accident could not have been mistaken for a dislocation. Also, the appearance of the shoulder and the position of the limb were sufficiently peculiar to prevent this accident being mistaken for a fracture of the neck of the humerus.

The treatment consisted of supporting the arm from the elbow against the side, a small pad being placed in the axilla. The right use of the extremity was not regained in less than eight months.

2. *Du Verney’s case.*—“A girl, about twenty years of age, fell into a stone-quarry, where she was found dead. The body was much bruised, and several ribs were fractured. On examining the left arm I believed it in the first instance to be dislocated; but, having made an incision through the integuments and muscles, I found the head of the humerus occupying its proper capsule, and recognised a fracture of the neck of the scapula. The neck of the scapula and the coracoid process were detached from the body of the bone.”

ART. 114.—*On a peculiar displacement of the Scapula.* By Mr. BRODHURST, Assistant-Surgeon to the Royal Orthopædic Hospital.

(*Medical Times and Gazette*, Feb. 7, 1857.)

This case (which was communicated to the Royal Medical and Chirurgical Society, 27th January, 1857), is described as displacement of the scapula upwards through paralysis of the serratus magnus muscle, and consequent retraction of the rhomboid, levator anguli scapulæ, and trapezius muscles. Mr. Brodhurst speaks of it as a very rare affection.

CASE.—The patient was sixteen years of age, tall and robust. The right shoulder was two inches higher than the left, and the inferior angle of the right scapula was five inches higher than that of the left side. The postero-superior angle of the scapula projected immediately beneath the skin on the anterior surface of the neck, one inch and a half above the clavicle. Immediately above this point the trapezius formed a thick, prominent cushion. The serratus magnus muscle of the right side could not be distinguished even during forced inspiration. The motions of the right arm were limited—that is to say, the elbow could be raised only seven inches beyond a right line with the trunk, and violent movements of this arm occasioned pain, in consequence of the projection of the scapula. Paralysis of the serratus magnus muscle had been produced when the patient was two years old, by her being caught by the arm when falling from the arms of a relative. Weakness of the limb was observed soon after the accident, and in the course of some months the shoulder was observed to be unduly prominent. A weight of five pounds was fastened upon the shoulder, and this was subsequently increased to eight pounds, which was worn during several years. The rhomboid muscles, the levator anguli scapulæ, and portions of the trapezius muscles were tensely retracted. These muscles were divided subcutaneously, and after the fracture had healed, pressure was made above the spine of the scapula, to endeavour to depress that bone. This was so far successful, that the normal position of the scapula was in great measure regained, the motions of the shoulder were rendered more free, and pain on motion was entirely removed.

ART. 115.—*A case in which the Heart was fatally wounded by a small Splinter of Flint.* By Dr. HERNOUX, of Auxerre.

(*Gaz. Hebdom. de Méd. et Chir.*, Jan. 16, 1857.)

CASE.—Thomas —, æt. 57, while engaged in breaking stones upon the highway, was struck by a splinter of flint close to the left border of the sternum, between the fourth and fifth ribs. The wound was very small, a very little blood escaped from it, and the edges were in contact; indeed everything seemed to show that the injury was little more than a mere scratch. But the man complained of difficulty in breathing, and he was removed to the hospital at Auxerre. There he was bled freely, and with some present relief. The next day (16th August, 1856) he was paralysed on the right side, and altogether unconscious. On the day following he died. On examination a thick clot of black blood was found covering the entire pericardium, and the pericardium itself was pierced with a small opening corresponding to the wound in the neighbouring parietes of the chest. The cavity of the peri-

cardium was also filled by a quantity of black blood, by which the heart was greatly compressed. And lastly, the left auricle was found to be pierced with a small ecchymosed opening corresponding to the opening in the pericardium and parietes of the chest. There was also a sanguineous clot in the left ventricle of the brain.

ART. 116.—*On Palpation of the Abdomen in certain cases of Internal Strangulation.* By Dr. MARROTTE.

(*L'Union Médicale*, Sept. 2, 1856; and *British Med. Journ.*, Dec. 13, 1856.)

Dr. Marrotte related to the Medical Society of the Parisian Hospitals, on July 9th, 1856, the history of a case in which the arrest of a biliary calculus in the small intestines produced symptoms of internal strangulation. He observed, that only five cases of the kind had been recorded by M. Fauconneau-Dufresne; they had occurred in the practices respectively of Drs. Mayo, Monod, Renaut and Reignier, Broussais, and Puyroyer. In one only of these cases—that of Mayo—did recovery take place.

The following were the principal features in Dr. Marrotte's case. The patient was an old lady aged upwards of sixty. For about ten years she had been subject to sudden pains, which she called colic, coming on at long intervals, sometimes at the beginning, sometimes at the end of a meal. In April, 1855, a more severe attack occurred, accompanied by much neuralgia of the integument over the region of the liver; the pain always appearing to proceed from the region of the gall-bladder. Subsequently to this, she was attacked with excessive pain in the right hypochondrium, but more confined to that region than before, and increased on pressure. On palpation, a deep-seated, wide, but distinctly bounded resistance, was felt. There was much fever. This attack M. Marrotte ascribed to ulcerated inflammation of the gall-bladder, by which an opening into the duodenum was formed, allowing the gall-stones to escape. The symptoms soon abated, leaving the patient, however, with constipated bowels. In about two months, she was attacked with violent pain, radiating from a point between the umbilicus and ensiform cartilage. The integument was not tender; but the pain was increased by deep pressure. There was nothing abnormal discovered in the right hypochondrium. There were also the ordinary symptoms of intestinal strangulation. After an ineffectual employment of ice, morphia, and enemata, M. Marrotte made a careful manual examination of the abdomen. While he was doing this, the patient said that she thought "he had displaced the cause of her disease, and that she felt less pain and distress." He did not attach much importance to this statement; but, on his visit next day, he was agreeably surprised to find that the nausea and vomiting had ceased; and that the patient had had two semi-fluid alvine evacuations, one of which contained a substance of the size of a green walnut, which, on examination, was found to be a biliary calculus. On subsequent days, other small calculi were passed; and the patient recovered. (Abridged from '*L'Union Médicale*, September 2d, 1856.)

On referring to Mr. Joseph Hinton's paper on "Intestinal Obstruction," published in the 'Association Medical Journal' for May 7th, 1853, we find, in the table which he has given, reference to three other cases of obstruction from biliary calculus; one published by the late Dr. Abercrombie, in his work on 'Diseases of the Stomach'; the other two by Dr. Oke, in the 'Provincial Medical and Surgical Journal' for July 7th, 1852.

ART. 117.—*On the valvular nature of Strangulated Hernia.*
By DR. ROSER.

(*Vierordt's Archiv*, 1856; and *Med.-Chir. Rev.*, April, 1857.)

Incarcerated hernia, in Professor Roser's opinion, essentially depends upon a valvular mechanism. The obstruction of the contents of the intestine in the incarcerated portion arises from the folds of the mucous membrane lying valve-like against each other, and preventing the passage of gas, fluids, &c. Looking at the complete obstruction which takes place in the hernia, one might suppose that the parts concerned are compressed as closely as is an artery when tied. But all observation teaches us that no such pressure is here exerted; for while the venous circulation is only partially arrested, the arterial remains uninterrupted. Were it otherwise, indeed, the intestinal fold would become rapidly gangrenous. The question is why, if there is space enough to allow of the circulation in the part to continue, cannot we by pressure return the contents of the intestine.

The nature of the obstruction may be shown by a simple experiment. If a noose of intestine, containing some fluid or air, be brought within a ring about the size of the finger, and then pressure be made upon the apex of the noose so as to force the contents against the compressing body, complete obstruction to their passage will be found to prevail. And yet a catheter may be passed beside the intestine, and, by drawing the latter a little to one side, a considerable space will be perceived. If pressure be made in front of the encircling ring, the contents of the intestine are forced back; but if we press at the end of the noose, the portion that lies next to the ring is forced against the latter, and the canal is closed. If we open the noose on its convex side, and fill it with water, we may observe the valvular disproportion of the intestinal folds, which resemble the valves of the aorta when acting under water.

Deferring to another occasion the exposition of his theory of the taxes deducible from these views, Professor Roser now points out the support they give to the operation for hernia, without opening the sac—a procedure he regards as one of the greatest improvements in surgery since the days of Paré. He believes it has made little progress in Germany and France, as compared with England, in consequence of the prevalence of a false theory of strangulation of hernia and erroneous ideas on the surgical anatomy of hernia. In respect to the first of these, too exaggerated an idea of the constriction that takes place has been entertained, leading to a belief that the mere dilatation of the tendinous margins could not suffice for the return of

the distended and indurated hernia. The above experiment, which proves the valvular nature of the obstruction, must surely give more confidence in the efficacy of the external incision. We have not space to follow the author in his description of the anatomy of femoral hernia, and which, indeed, essentially resembles that furnished by Cooper.

ART. 118.—*On the use of Tannin and Glycerine in Fissure of the Anus*
By Dr. VAN HOLSBEK.

(*Dublin Medical Press*, Jan. 14, 1857.)

Dr. Van Holsbek, considering the contraction of sphincter as the effect and not the cause of fissure of the anus, directs his attention to the latter. He has treated with success several cases in which the fissure has persisted after the division of the sphincter by means of the following application: glycerine, 16; tannin, 1. A more or less voluminous tent is dipped into this and introduced into the rectum night and morning; and after a while the patient can do this for himself. It acts both by the topical influence it exerts upon the fissure, and by its compression (its size being increased) at will, upon the constriction. In order to prevent a relapse, great care must be taken to obviate the occurrence of constipation for the future.

ART. 119.—*Prevention of bleeding after operations upon the Rectum.*
By Mr. SALMON, Surgeon to St. Mark's Hospital for Fistula, &c.

(*Medical Times and Gazette*, March 14, 1857.)

In the operation for fistula and fissure Mr. Salmon is in the habit of making very free and deep incisions, and his rule in the former disease, of cutting the base of the sinus as well as the sphincter, necessarily involves an extent of incision at least three times as great as that usually employed. Hence not unfrequent haemorrhage would result if certain precautions were not adopted. Of these precautions the first is the use of cotton-wool instead of lint, as a dressing. Immediately after the incisions are completed, a large plug, of the finest jeweller's wool, is introduced into the gut, and pressed gently into the whole length of the wound. There is some art in accomplishing this neatly and efficiently. A metal probe, the thickness of a quill, should be used, and the fore-finger of the left hand having first been passed into the bowel, the latter is held well open, away from the wound; the tuft of wool is then pushed high up into the gut, and lastly pressed down on the line of incision. The wool must on no account be oiled, otherwise its object, as a restrainer of haemorrhage, will be defeated, since it is by its loose and absorbent texture that it forms so excellent a plug. Its softness prevents its becoming a source of irritation to the rectum, as a fold of lint of any size generally does. Each patient on being sent back to bed has a separate attendant allotted to him, whose duty it is to sit by him with a piece of sponge gently pressed against the anus, and to report any bleeding should it occur. No styptics are

ever used; and the actual cautery, which is deemed the one resource, has been employed at the hospital but twice during the last two years. Continued pressure is the means which is almost invariably found efficient.

ART. 120.—*Partial Amputation of the Penis by accidental ‘Linear Ecrasement.’* By Mr. WORMALD, Assistant-Surgeon to St. Bartholomew's Hospital.

(*Assoc. Med. Journ.*, Nov. 15, 1856.)

This case occurred among the out-patients at St. Bartholomew's Hospital :

CASE.—The patient was a boy affected with loss of sensation in the penis, and a fistulous passage communicating with the urethra. The parts were also very much swollen. The boy would give no history of the matter, except, as he said, that he had been knocked down by another boy, who stood upon him, or hurt the penis. Mr. Wormald, discrediting this statement, made a careful examination of the parts, to find if any other force had been used, or a string tied about the root of the penis, as he at first suspected. The pain at one part was excessive. In order, therefore, to examine the organ sufficiently, the boy was placed under the effects of chloroform. The case, in fact, required very active treatment, as gangrene of the penis was impending. On a careful investigation, it was found that a sort of *écraseur* operation had been effected by means of a small string, which was at some time firmly tied round what was once the base of the penis. This string Mr. Wormald removed by an operation, and preserves as a curiosity. The most curious part of the case is, that, as the parts swelled, and as the cells of the corpora cavernosa, in the act of distending, buried the tight ligature out of sight, the ligature had slowly cut through the nerves and vessels of the penis; but, as in the operation of linear *écrasement*, the parts healed again as fast as they were cut; and in this manner, the nerves having been cut, all the end of the penis was without sensation. The urethra was possibly one of the first parts that was cut; and as a fistulous opening was established, it had remained patulous. There seemed every reason also to fear gangrene of the parts, as the vessels had also been partially destroyed. Urethro-plasty, as we have seen it in the practice of Mr. Henry Thompson, might cure the fistula; but to remedy the anaesthesia or paralysis is almost impossible.

ART. 121.—*On the treatment of Warts and other growths upon the Genital Organs by the application of Chromic Acid.* By Mr. MARSHALL, Assistant-Surgeon to University College Hospital.

(*Lancet*, Jan. 24, 1857.)

The chromic acid employed is prepared from the chromate of potash and sulphuric acid. Definite proportions of the crystallized acid are dissolved in distilled water, and the slight trace of sulphuric acid present was precipitated by a drop or two of a solution of bichromate of baryta; but this extreme care to obtain a pure solution is found by comparative trials to be practically unnecessary, although considered desirable in a first series of experiments. The strength of

the solution ultimately adopted was in the proportion of 100 grains of crystallized chromic acid to a fluid ounce of distilled water.

The acid solution is best applied by aid of a pointed glass rod, or, where a large quantity is needed, by means of a small glass tube drawn to a point. Only so much should be applied as will saturate the diseased growth, avoiding the surrounding healthy mucous membrane; for although the solution is not sufficiently powerful as an escharotic to destroy or even vesicate the mucous membrane, it may give rise to an unnecessary amount of subsequent inflammatory action which of course it is well to avoid, but from which no serious consequences have been found to ensue. Any superfluous acid may be removed by a piece of wet lint. The first effect of its application to the warts is to produce a slight smarting pain. If, however, any ulcerated surface be touched, the pain is of a burning character, more lasting, but not so acute and intolerable as that caused by the nitrate of silver, or by nitric acid with or without arsenious acid. After a short time the pain passes off, but there is gradually established a certain aching and soreness, dependent on the excitement of more or less inflammation in the parts. This inflammatory action is accompanied by a purulent discharge, and under its influence the morbid growths rapidly waste, in some cases being thrown off altogether, and in others undergoing a partial though evident diminution in size. The best immediate dressing to the parts is dry lint, as that does not dilute the strength of the chromic acid solution, and is at the same time clean. Afterwards the lint should be changed twice daily, or, what appears to be better as a check to any inflammation, the parts may be washed with a solution of lead, and dressed with lint moistened in the same.

In most cases of warts, one application suffices, the cure being completed in from four to eight days. The extreme period to which the inflammation set up by the chromic acid has been found to continue active is about four days. In severe cases, where the warts are large, repeated applications are necessary, each being followed by less inconvenience and less of the characteristic inflammatory action. In but one instance, so far as hitherto observed, have more than three applications been required, and in that there was great neglect as to proper cleanliness and dressing. It remains to be seen whether warts consequent on syphilis are quite as manageable as those clearly of non-syphilitic origin.

CASE 1.—A young girl, of fair complexion and delicate skin, the subject of syphilis for the previous eleven months, who suffered in regular order from primary sores, a small bubo on the left side, maculæ, sore-throat, eruption on the head, enlargement of the sub-occipital glands, and, finally, a scaly eruption on the thighs and legs, and who had undergone (but only after the declaration of the secondary symptoms) a mild mercurial course, applied to Mr. Marshall to be relieved of numerous warts, situated on the nymphæ, the margins of the vaginal orifice, the perineal raphé and the verge of the anal aperture. There were nearly thirty separate growths, some pedunculated, some sessile, some deep-red and highly vascular, others paler and covered with a thick epidermoid covering, but all exquisitely tender. Nitrate of silver, the acid nitrate of mercury, nitric acid, and nitric with arsenious

acid, were applied at different times. Acetic acid and creosote had already been used. The mixed nitric and arsenious acids produced the most effect, but the pain and suffering caused by their application were so intense that the patient would not submit to the necessary repetition of the remedy. Under the influence of chloroform nearly all the warts were then snipped off with scissors, and nitrate of silver was freely applied. During this varied local treatment, which occupied about a month, the cutaneous eruptions and sore-throat quite disappeared, under the use of small doses of iodide of mercury. But the troublesome verrucæ were only temporarily suppressed. At the end of a fortnight they had reappeared, and the patient absolutely refused to submit to any further treatment by caustics or excision, even if chloroform were again employed, as the pain after the last operation had been so severe. For the next four or five weeks burnt alum and lead lotion were applied, and at the same time the constitutional treatment was omitted. The cutaneous eruption did not return, but the warty growths became as large and painful as ever.

Finding it useless to recommend a recurrence to remedies already too familiar to the sufferer, and endeavouring to devise some further means of treatment, Mr. Marshall first conceived the idea of trying the effect of chromic acid, and, after using much persuasion, was allowed to touch with it a single warty growth. For this purpose, a small quantity of the crystallized acid was exposed to the air until it had completely deliquified, and then an equal bulk of water was added to it. When a drop of this very concentrated solution was applied to the condemned wart, instant deoxidation of the acid ensued, and the growth became covered with a blackish-brown, lustrous film of oxide of chromium. Very little pain was produced, but a drop of water being now applied, on the supposition that further dilution was necessary to enable the remedy to penetrate the substance of the wart, a smarting sensation followed, which lasted a few minutes. No further inconvenience ensued, and in four days this particular wart had disappeared. A second trial was then made on four larger masses, with a weaker solution of chromic acid. The acid was not deoxidated in the same way as before, but the growths were stained of a bright orange-yellow colour. A little more pain, smarting, and heat were produced, but these were transient and tolerable, and at the end of a week, after some little soreness and discharge, the parts touched had wasted down to slightly elevated indurations. On the third occasion, the patient's confidence being established, and her fears of pain relieved, all the remaining warts on the vulva, perinæum, and anus were freely touched. The surfaces implicated being now extensive, the pain was more severe, and was felt for three or four hours; but still it was not to be compared in severity with that caused by the caustics previously employed. On the next day, the parts became somewhat inflamed, hot, slightly swollen, covered with a thin discharge, and rather sore, painfully so on movement or pressure; but none of the symptoms were of an aggravated character, and on the fourth day had almost entirely subsided. By the end of another week, every warty growth had disappeared. Throughout the whole treatment by chromic acid, free ablution of the parts after the first twenty-four hours, and a dressing of dry lint, twice daily, were enjoined. No constitutional treatment was pursued. At the present date, two months have passed over without any re-appearance of the disease. It may be well to mention that there was no irritation of the inguinal glands consequent on the inflammatory action set up by the chromic acid, nor were there any symptoms of disturbance in the general health which could be referred to the absorption of the chromic acid into the system. On the contrary, the health improved.

CASE 2.—This, which, with two other cases, may be more briefly stated than the first, was one of pedunculated warts, seven or eight in number, resulting from previous gonorrhœa, and situated just within the orifice of the vagina. They were all touched with the solution, and disappeared within a few days. Scarcely any pain or subsequent soreness was experienced.

CASE 3.—A youth, suffering from gonorrhœa and balanitis, with slight phymosis, had a dense crop of highly vascular warts upon the prepuce, corona, and glans. After one application of the chromic acid solution, which caused temporary smarting pain, and then a good deal of soreness on being touched, which continued for four days, only a few indurated ridges and flat warty eminences remained. By a second and third application, at intervals of a week, to these particular parts, they were quickly removed. The gonorrhœa was treated simultaneously. No syphilitic signs appeared.

CASE 4.—A man had at the same time an indurated chancre near the frænum, and an abundant crop of warts on all the parts within the prepuce. Mercury was administered internally, and the chromic acid used at intervals, with complete success. But there was much soreness, and some swelling and discharge. Sufficient attention had not been paid to the dressing with dry lint, and, owing to the occupation of the patient, his attendance at the hospital was at long and irregular intervals. This case is still under treatment, for a few elevations of the integuments, the bases of previous warts, remain. The chancre, which had also been touched, healed readily.

ART. 122.—*A remarkable case of Hydrocele.* By Mr. M. J. LISTER.

(*Edinburgh Medical Journal*, Sept., 1856.)

This case may be regarded as of no ordinary interest, on account of its very unusual features, if for nothing more. It is by no means common for ordinary hydroceles, even though of large size, to extend fairly into the inguinal canal, though they often reach and even distend the external ring. When such cases do occur, they are sometimes associated with a hernial protrusion, which descends when the fluid of the hydrocele is drawn off; the hydrocele serving as a sort of natural truss for a pre-existing rupture, which, having distended the inguinal canal, permitted the hydrocele to ascend into it. Cases of hydrocele, reaching as far as the internal ring, without concomitant hernia, have, however, been repeatedly observed, although there appears to be no work in which allusion is made to them. In regard to diagnosis, the disease with which it is most likely to be confounded, is congenital inguinal hernia, which, like it, is a more or less reducible scrotal tumour, with the testicle imperceptible. But the evident fluctuation of the contents, the imperfect manner in which they could be returned into the abdomen, and the manifest hypogastric tumour which was produced when reduction was carried to the furthest point, were strong points of distinction from that disorder. Hydrocele being a disease not dangerous to life, the opportunity for post-mortem examination is not very commonly presented, and hence the true nature of large reducible hydroceles is somewhat obscure. The present case shows that they are not to be regarded as necessarily affections of the cord.

CASE.—“The case which forms the subject of the present communication,

is, so far as I know, unprecedented in the records of surgery. For the opportunity of bringing it thus before your notice, I am indebted to the kindness of Dr. Keiller, whose assistant at the Royal Infirmary, Mr. W. W. Clark, informs me, that the patient, G. S. by name, æt. 35, a native of Calcutta, had suffered from excessive diarrhoea during a long voyage in an emigrant ship, of which he was himself the surgeon; and, on landing at Liverpool, was in an extremely exhausted and emaciated condition. He proceeded to Edinburgh, where some of his friends reside; and they, being much alarmed at his state of health, placed him in the hospital, on the 14th of December last. He seemed at first to rally somewhat under the treatment that was adopted, but ultimately sank, and died on the 1st of January. Shortly before his death, it was observed that he was affected with a large tumour, occupying both sides of the scrotum. Though very averse to its being examined, or to entering into conversation regarding it, he stated that the affection had existed for several years, and was believed by himself to be hernia, so that he had worn a double truss; and extensive cicatrices in the vicinity of the inguinal canals, led to the supposition that he had applied it so as to exercise an unusual degree of pressure. From the imperfect examination that the circumstances permitted, the case was supposed one of double hydrocele, with the peculiarity, that on the left side, the tumour extended into the inguinal canal, and a swelling existed above Poupart's ligament, between which and the scrotal tumour a distinct sense of fluctuation was communicated to the hands on alternate pressure.

"Post-mortem examination."—It was found on dissection, that the mass which distended the scrotum, was part of a single large sac, which, on the right side, had pushed aside the atrophied testicle, and applied itself to the external abdominal ring; while, on the left, it extended through the inguinal canal, and formed a tumour beneath the peritoneum lining the iliac fossa and lower part of the anterior wall of the abdomen, where it had been seen and felt during the life of the patient. The sac was removed entire from the body, and was now first seen by myself. The fluid which it contained was not sufficient to distend it fully, and it assumed a somewhat flattened form when placed upon a plane surface, having a constriction in the middle, at the part corresponding to the inguinal canal, by which it was divided into two portions—one scrotal, the other abdominal. When pressure was exerted upon either the scrotal or abdominal part of the flaccid sac, a portion of the fluid passed from one to the other, through the constricted part c, with a rushing sensation similar to that frequently experienced when the contents of a diffuse hydrocele of the cord have been pushed up into the abdomen, and the pressure is relaxed so as to allow them to descend again.

"In order to make out the true nature of the sac, the first point was, of course, to ascertain its relations with the testicle, which was distinctly to be felt, though much atrophied. I laid open the sac freely at its inferior aspect, giving exit to a large quantity of brownish fluid, containing abundant scales of cholesterine, as is common in old hydroceles, and proceeded to examine its interior. It was lined throughout by a smooth serous membrane, the testicle projecting into the cavity at the part already mentioned, covered by the lining membrane, just to the same extent as it naturally is by the tunica vaginalis; and, in fact, presenting nothing abnormal in appearance, except its small size. It was, therefore, clear that the sac was neither more nor less than a distended tunica vaginalis."

ART. 123.—*On the treatment of Bubo.* By M. BROCA.

(Medico-Chir. Review, Jan. 1857.)

M. Broca observes that a bubo undergoes two stages of development, during the first of which the inflammatory engorgement is confined to the gland itself, this containing a small central cavity filled with semi-fluid pus. In the second stage, suppurative inflammation is propagated to the surrounding cellular tissue; and it is by such extension that the ravages of bubo are produced. The object of the proposed means of treatment is to prevent the production of this secondary abscess, by attacking the bubo during its first stage, and evacuating the pus before this has extended beyond the limits of the gland itself.

M. Broca prefixes some observations upon the diagnosis of the form of bubo that should be so treated, these being based upon Ricord's doctrines. Such bubos are indurated, rounded glands, the skin over which is not discoloured, and they have very much the appearance of the indolent bubo met with in the first stage of constitutional syphilis, but which, never suppurating, requires no local treatment. This indolent, *constitutional* bubo is in fact one of the first symptoms of secondary syphilis which follows indurated chancre, and is amenable to mercurial treatment. The *local* suppurating bubo never appears but in glands which are in direct communication with the part that is the seat of chancre, which chancre is never indurated, and never gives rise to constitutional syphilis. It is amenable only to local treatment, and the existence of a glandular abscess is sufficient to conclude that the syphilis is local, and that mercury is inexpedient. When this *local* bubo has reached its stage of complete development, there is therefore no difficulty in its diagnosis; but at first, prior to the propagation of the suppurative inflammation to the cellular tissue, it may be confounded with constitutional bubo. But, as has been stated, this last almost constantly arises from indurated chancre, which is never the case with the local bubo. The constitutional exists on both sides, the local is often unilateral. The latter is never accompanied by symptoms of constitutional syphilis, while in the former there are always more or less evident signs of a general infection, which gives rise to other analogous glandular engorgements, and especially at the postero-superior cervical region. The tumour in constitutional bubo is quite indolent, while the other is always more or less painful, especially upon pressure. In the former there are generally a considerable number of glands engorged, which are scattered over the whole extent of the bend of the groin; while in the latter, but two or three glands, placed close to each other, and often only one, are affected. In constitutional bubo the tumour is very hard and entirely solid; but in local bubo it is somewhat less hard, and imparts a sense of fluctuation similar to that furnished by a small cyst with very thick walls. This fluctuation alike differs from that of an ordinary abscess, and from the

resistance of solid tumours. It is due to the semi-fluid purulent matter contained in the centre of the gland.

The accurate diagnosis is of importance, as the treatment recommended is applicable only to the local bubo. When the gland has acquired the size of a small hazel nut, it should be firmly fixed by two fingers of the left hand, and a bistoury plunged into its centre. Without letting go of it, the bistoury should be removed, and a grooved director passed in. On employing strong lateral pressure, a small quantity of semi-fluid, ill-elaborated pus is forced along the groove; and the pressure must be continued until the blood comes, so as to secure the entire discharge of this pus. It is rather a painful procedure, and must be repeated on each affected gland. The tumour becomes a little reduced in size, but next day it has somewhat enlarged again, and the small quantity of pus that has again formed must be discharged by passing in the director and using pressure. This must be done every day until the suppuration ceases, or a small fistulous opening has become established for the discharge. In some of his cases, M. Broca has injected tincture of iodine by means of a small syringe, and he thinks this may exert some effect in neutralizing the virulent properties of the pus when this is inoculable. At present but nine cases have been treated by this new mode, no ill effect having resulted in any of them; while extension of suppuration to the cellular tissue, with the consequent ulceration, detachment of skin, &c., has been avoided. In five out of the nine cases, less than a week sufficed for a cure; the other cases requiring twelve, thirteen, thirty-seven, and fifty days; a small fistulous opening alone remaining during that period, in place of the large purulent collection usually observed. This mode of treatment, therefore, even when it does not abridge the duration of the bubo, materially restrains its extension.

Since the above paper appeared, M. Gély, surgeon of the Hôtel Dieu, Nantes, has published an account of some observations he made upon the subject in 1852-3. He states that he has derived great advantage from making punctures with a lancet at an early period, sometimes as soon as the third or fourth day. He introduces no conductor, and employs no pressure, but makes a puncture large and deep enough to allow of a free escape of the pus; and applies a tepid cataplasm if there is much inflammation.

ART. 124.—*On the anatomy and pathology of the Adult Prostate.*
By Mr. HENRY THOMPSON, Assistant-Surgeon to University College Hospital.

(*Medical Times and Gazette*, Feb. 21, 1857.)

These observations are based upon upwards of sixty dissections, fifty of which were preserved and exhibited, the latter having been examined on a uniform plan.

Mode of examination.—The organ has been clearly dissected from adjacent parts. At the neck of the bladder, the muscular and other

fibrous structures which surround the vesical orifice of the urethra were pared away pretty closely ; some portions may have been left, as it does not appear possible to mark any absolute limit between prostate and bladder ; anteriorly, although the same condition exists, it is less difficult to determine, approximatively, a boundary line. It was then measured, in three directions, as follows : from base to apex ; in the extreme transverse direction ; and in the extreme recto-pubic direction. Next, it was weighed. After this, the urethra was laid open, the existence of "concretions" sought in the canal, and afterwards in various parts of the prostatic substance. In most specimens, free sections were made with Valentin's knife, and a series of microscopical observations pursued in normal and abnormal conditions of the organ, illustrated by about 100 specimens, mounted on slides, with preservative fluid. The greater part of these prostates were taken from the bodies of elderly persons, as they consecutively appeared in the dead-house of a large institution, containing a due proportion of healthy and diseased lives, and no kind of selection was made. The particulars of age, weight, and measurement, are arranged in tables exhibited. The observations made are presented under the following heads.

I. *On the frequency with which enlargement appears in advanced age.*—The opinion has long been current that the enlargement of the prostate is one of the changes natural to old age. The specimens in question show the incorrectness of this view. Of the 50 specimens, 43 were taken from individuals of fifty years old and upwards. Of these 43, two were very small, probably atrophied, leaving 41. Of these 41, 14 exhibited enlargement, or a tendency thereto, manifested by the presence of tumour, more or less developed. Of these 14, 9 exhibited it in a very slight degree ; in the remaining 5 enlargement was considerable, and gave rise to symptoms during life. Only one died of the affection.

Results, per cent.—An appreciable enlargement existed at the rate of 32 per cent. ; notable enlargement, causing symptoms during life, at that of 12 per cent.

Of the 41 cases above fifty years of age, 29 were therefore unaffected in the slightest degree, and amongst them were the oldest individuals of the series—one at ninety, one at eighty-five, and two at seventy-nine years. It was then held to be established, that enlargement of the prostate, so far from being a change natural to old age, was an exceptional condition.

II. *The size and weight of the adult prostate.*—From the 50 cases of all adult ages, 14 being deducted as enlarged, and 3 as unnaturally small, 33 specimens remained healthy ; the average weight of these was 4 drachms 38 grains ; there was very little deviation, most of them ranging between 4 and 5 drachms.

Measurements.—Those given by authors generally were corroborated. The prevailing measurements were :—From base to apex, $1\frac{1}{4}$ to $1\frac{1}{2}$ inch ; greatest transverse diameter, about $1\frac{3}{4}$ inch ; greatest thickness, $\frac{5}{8}$ to $\frac{7}{8}$ inch ; measurement from the centre of the urethra, outwards and downwards to the periphery of the organ, the line of section adopted in lithotomy, varied from $\frac{3}{8}$ to $\frac{7}{8}$ inch.

III. On the nature of a part commonly called the "third lobe."—The history of this term, and its employment to indicate a distinct portion of the organ, is discussed at some length. An examination of the preparations exhibited does not warrant its use. There is no portion marked out with sufficient distinctness to entitle it to such an appellation. Its existence appeared to have been the subject of discussion during some years in the course of the last century, long before the time of Sir Everard Home, the result of which was then a decided denial to its existence; Morgagni especially, after repeated examinations, strongly opposing its claim to be considered a distinct part of the healthy organ. It was proposed now to term the stratum of prostatic substance, which united the two lateral lobes behind and below the urethra, the "posterior median portion," as more correctly indicating the part referred to, and at all events as not involving assent to the disputable theory which assigned to it an independent character.

IV. On the existence of distinct tumours in the prostate.—The existence of solid tumours of different kinds is by no means rare in the prostate. They were pointed out by Sir E. Home, and by him supposed to be of the nature of apoplectic clots. Subsequently they have been regarded as fibrous tumours, and more lately it has been shown that some possess a structure approaching very nearly to that of the secreting tissue contained in the prostatic substance around. It is shown that enlargement of the prostate is very frequently associated with the development, more or less marked, of such growths in some one of three forms; in short, that the production of defined tumour is more frequently than otherwise the essential element of the pathological condition known as hypertrophy of the prostate. Of fourteen enlarged prostates in the series, six exhibited numerous fibrous tumours in the substance of the lateral lobes; the others show polypoid enlargements, single, binary, or multiple, springing from the posterior median portion. The varieties may be briefly noticed as follows:

1. A simple fibrous tumour, small, nearly isolated, made up of closely packed organic muscular fibres, with some areolar tissue, intimately resembling those found imbedded in the walls of the uterus.

2. A tumour composed of the same elements as the preceding, but containing, in addition, some of the glandular substance of the prostate, more or less imperfectly developed. This also may be imbedded, with or without a cyst, seeming sometimes to partake more of the character of a local enlargement, limited to a small portion or lobule of the prostate tissue, and only partially isolated. Although separating this class from the previous one for facility of reference, it is more than probable that the two nearly merge into each other at their adjacent limits, the latter approximating to the former by insensible gradations; so that some tumours which appear to be purely fibrous at first may be found to exhibit slight traces, in parts of its structure, of the glandular element. In all, however, the basis is *muscular fibre*.

3. A tumour composed entirely of the ordinary structures of the prostate fully developed, and enjoying activity of function in common with the rest of the organ. It assumes a pyriform shape even in its

earliest stage, and springs from the posterior median portion. It may vary in size from that of a pea to that of a middle-sized pear. The analogies between these and the tumours of the uterus are considerable. Pointed out by Velpeau and others, modern researches seem to indicate them more plainly.

1. There is a ground of analogy derived from the two organs, prostate and uterus, being undoubtedly morphological equivalents in the two sexes, the analogue of the uterus and vagina combined being found in the prostatic vesicle or utricle of man. Numerous authorities are referred to in support of this view.

2. A stronger ground may be found in the fact, that the prostate and uterus are organs whose bulk is constituted by the same tissue—viz., the organic muscular fibre. No other organ in the body besides these two is similarly constructed by thick masses of this tissue; elsewhere, it is distributed in very thin layers.

3. Both organs exhibit growths identical both in external and histological characters. Isolated tumours imbedded in the substance of the organ, and polypoid outgrowths intimately connected with its structure, are seen in both. The occurrence, in some prostatic tumours, of a very small proportion of partially developed gland-tissue, intermingled with the muscular basis, should be regarded rather as an accident of situation than as indicating any material difference between those and the purely muscular tumours.

4. The two organs are subject to considerable hypertrophic enlargement, mainly consisting of their constituent fibrous and muscular elements, and in both this may be associated with some tumour-formation, or may exist independently of it; may, in the latter case, be local or general, affecting the whole or certain parts of the organ, and, when local, affecting particular spots more commonly than others.

5. The two organs are liable to these changes after the prime of life has passed. Bayle, quoted by Rokitansky, and confirmed by Dr. Robert Lee, says that 20 per cent. of women after thirty-five years, have fibrous tumours of some size in the uterus. These preparations show prostatic tumours in 30 per cent. of males after fifty.

ART. 125.—*Radical cure of Unstrangulated Hernia.* By M. GERDY.

(*Lancet*, Oct. 18, 1856.)

M. Gerdy's operation for the radical cure of hernia has not found much favour in this country; and this coldness can hardly be wondered at when it is recollected that the operation is connected with very serious risks, and has for its object the relief of a displacement which entails, in simple cases, no great inconvenience. There are, however, patients who become tired of wearing trusses (especially as the latter sometimes exercise a very uncomfortable pressure), and they request to be freed, by operation, from a complaint which often embitters life.

It would appear by a thesis, lately defended by M. Amen, at Paris, that the operation is much more resorted to in France than in this country; and Gerdy's statistics are certainly calculated to remove apprehensions as to the danger of peritonitis; for he found only six deaths out of seven hundred operations, two of the six being unconnected with the actual surgical proceedings. We need hardly say that Gerdy's method consists in offering at the ring the resistance of a cutaneous plug, formed by invagination of the skin in the inguinal canal. It is also well known that M. Velpeau obliterates the inguinal apertures by injections of iodine into the sac.

M. Amen gives seven cases treated by these injections: out of these, three were relieved, and four completely cured. The method by invagination was used twice by M. A. Guérin, at the Charité, and once by the author himself. After these latter operations, it is important to induce the patients to wear well-made bandages, at least for a twelve-month; and we perceive that, at the Charité, Mr. Bourjeaurd's were considered by M. Guérin to be the best calculated to promote the eventual cure, as they exercise sufficient compression without injuriously distressing or chafing the abdominal walls. It is plain that, in such instances, steel trusses could not be thought of; and perhaps there would be fewer persons desirous of subjecting themselves to the radical cure, if these elastic bandages were more extensively used.

One of the cases treated by injection is worth quoting: a waiter, aged twenty-nine, was admitted under M. Maisonneuve, at the Hôpital Cochin. Hernia, right inguinal, and of six years' standing. He wished for the operation, because the hernia was troublesome, and gave him a great deal of pain. On the 5th of September, 1854, equal parts of tincture of iodine and water were thrown into the sac, and left three or four minutes. Severe inflammation of the parts ensued; but the tumour diminished after the eighth day, and by the fifteenth it was of the size of a walnut, perfectly plugging the ring. Six months afterwards the tumour was of the size of a nut, and the patient made all kinds of exertions and efforts without thinking any longer of his hernia.

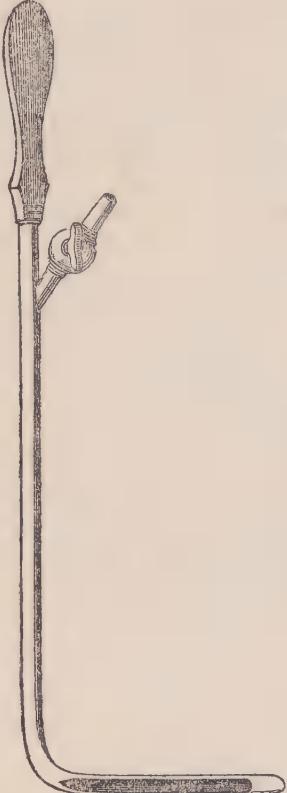
One of M. A. Guérin's cases of invagination refers to a man-cook, aged twenty-two. Small inguinal oblique enterocele, six years; habitual pain makes him seek the radical cure. On the 22d of February, 1856, M. Guérin operated by invaginating the integuments to the bottom of the canal, and fixing the skin by a strong thread and bead. Inflammation ran very high until the fifth day after the operation, when the thread and bead were removed. On the 6th of March, fourteen days after the invagination, the ring was obliterated, and six days afterwards the patient left the hospital, with one of Mr. Bourjeaurd's elastic bandages, which he is cautioned to wear for some time.

ART. 126.—*A rectangular Catheter-staff for Lithotomy.*

By Mr. HUTCHINSON.

(Medical Times and Gazette, Feb. 21, 1857.)

The main peculiarities of this instrument are its rectangular form and its catheter stem. The advantages of its form are—1st, that it made the direction into the bladder straight, and thus obviated all danger of the knife leaving the groove; 2dly, that the angle projecting prominently into the perinæum, was more easily found than the curve of an ordinary instrument; 3dly, that its groove commencing only at the angle, there was no chance of the urethra being opened too far forward, or the artery of the bulb being wounded; 4thly, that when once introduced it did not easily change position. Its being a *catheter as well as a staff* is important—1st, because it allowed the surgeon to be quite certain of its being really in the bladder before commencing the operation; 2dly, because it permitted of the bladder being injected without any change of instruments, and thus prevented the risk of the water escaping. It was provided with a stop-cock. The author insists strongly on the importance of operating with a full bladder, and the dangers of its neglect, and believes that one great recommendation of his instrument was, that it would much encourage and facilitate the practice. Adverting to causes of accident in lithotomy, he states, that of a series (nine) which had come under his notice during



the last few years, chiefly in the practice of the London hospitals, they had been due to—1st, the knife leaving the groove in the staff; 2dly, the staff being at the time not really in the bladder; 3dly, injury of the fundus of the bladder with the point of the knife; and he expresses a strong opinion that the employment of the "rectangular catheter-staff" would have prevented them all. The instrument has a side groove, and is adapted for the use of any form of knife the operator might prefer. It has been made by Messrs. Ferguson, of Giltspur Street. It has been tried in the dead-house a great number of times, and once upon the living subject, and always without any inconvenience. There is no difficulty whatever in its introduction. It was advised to be held in the usual way, moderately hooked up under the symphysis pubis, but by a slight movement of the handle its angle might be made to project more or less into the perinæum, according to the operator's wish. Mr. Hutchinson wished distinctly to state

that he made no claim to originality of design. Dr. Buchanan, of Glasgow, had long ago recommended and used an angular staff for lithotomy, and more recently Mr. Ferguson had devised a grooved catheter for perineal section. The present instrument was merely a combination of the two principles. He believes, however, that it possesses in its catheter stem a very important advantage over Dr. Buchanan's, since it enables the operator to ascertain with positiveness whether he was in the bladder. With instruments of the ordinary curve this is done by striking the stone, but, as an angular one is very inconvenient for sounding, it is liable, when made solid, to the objection that the surgeon might occasionally have to operate in uncertainty. The author describes several other modifications of the angular staff which he had had made in the course of a long series of experiments as to the safest instruments for lithotomy. One of these had the groove beneath, and the knife adapted to it was a double cutting gorget, the beak of which was so made that when once placed it could not leave the groove. This he had once used on the living subject without inconvenience; but as it was liable to some objection, and as the side groove allowed of the operation being completed by a single knife and much simplified the apparatus, he had at length abandoned the principle which distinguished the former.

ART. 127.—*On a new method of operating for Impermeable Stricture.*
By MR. SYME, Professor of Clinical Surgery in the University of Edinburgh.

(*Lancet*, March 14, 1857.)

In a former communication (*v. "Abstract," XVIII*, p. 211) upon the remedy of stricture by external incision, the author endeavoured to show that impermeability was not consistent with the nature of stricture, and that whenever the urine could pass through the urethra an instrument might be made to do so; not perhaps at once and with ease, but always through time and proper management. Though thus certainly permeable while merely contracted, the canal was undoubtedly liable to complete obstruction in consequence of wounds, and also of sloughing, when it had been found to constitute a very troublesome subject of treatment by the operation hitherto employed —viz., cutting upon the point of a catheter passed down to the seat of obstruction, so as to clear a way for its introduction into the bladder—a process rendered difficult by the thickness and condensation of the textures concerned, and also dangerous as well as uncertain by the risk of not cutting exactly in the proper course of the urethra. Two cases of this kind—one from a provincial town in Scotland, and another from St. John's, New Brunswick, in both of which not a drop of urine passed through the urethra for many months, the urethra being completely obstructed to the introduction of instruments—having lately come under the author's care at the same time, led him to reconsider the subject, and devise the following plan instead of the one usually employed, which, for the reasons just

mentioned, he was unwilling to adopt. An instrument like the common lithotomy staff, with a groove on its concave instead of the convex side, being introduced through the fistulous opening of the perinæum, and confided to an assistant, the guide director employed for the division of strictures by external incision might be passed down to the seat of obstruction, and while the staff was supported by pressure upon the perinæum to thrust through the opposing substance in the course which it ought to take if the canal were free, enter the groove, and so pass into the bladder, when the state of matters would be similar to that of a stricture requiring division after having the director passed through it, so that the operation might be completed in the same way as upon such an occasion. This procedure was executed in both of the cases, without any difficulty in one, and without more in the other than might have been expected from the extreme degree of injury which the patient had sustained by falling twenty feet, fracturing the pubis, having the bladder punctured, &c. &c. The first patient was dismissed from the hospital perfectly well at the end of seven weeks after the operation ; the second, passing urine in a full stream, but in general only by drops through the perinæum, appears also to have the prospect of complete recovery at no distant date. While quite aware that the formation of a new urethra is much less promising in its result than the enlargement of an old one, the author expressed his hope that the method which he had proposed would facilitate the procedure, and lessen the risk of its bad consequences.

ART. 128.—*On the treatment of Stricture of the Urethra, Rectum, &c., by means of certain guides and tubes.* By MR. THOMAS WAKLEY, Surgeon to the Royal Free Hospital.

(*Assoc. Med. Journ.*, Nov. 29, 1856.)

It is now five years since Mr. Wakley brought under the notice of the profession his system of treating urethral stricture. At that time, the difficulties and dangers attending the ordinary methods pointed out the necessity of devising some new plan. At first, the expectations entertained by Mr. Wakley as to the success of his method were founded on theory : but since that time, the instruments have been extensively tested by experience ; and the author states that in only one instance, which had come under his care, among a very large number, had he been foiled in introducing his instrument. The apparatus has also been used by many surgeons of eminence, who had spoken favorably of the plan. The author then proceeds to describe the instruments as consisting of a series of guides to be passed into the urethra, of straight tubes to be passed over the guides, and of elastic catheters to be passed over the guide when the tube has been withdrawn. The ordinary methods of treatment followed by other surgeons were not to be depreciated ; but the author's opinion is, that in forty-nine cases of stricture out of fifty, where an instrument could be introduced, the use of cutting instruments and caustics might

be dispensed with. The mechanical power which the tubular system afforded was very great; but it was not at all to be compared with the plan of forcible catheters as advocated by some French surgeons. With the guide and tubes dilatation can be effected most carefully and efficiently. Before the application of the instruments, the patient should submit to a preparatory treatment for two or three days; and his urine should be examined as to its specific gravity, the presence of pus, mucus, &c. Water-cushions filled with hot water should be applied to the pubic region. A guide having been passed, a tube is glided over it; the tube is then withdrawn, and an elastic catheter is passed over the guide. This tube is then withdrawn so far as to leave only a small portion within the bladder. On this point, Mr. Wakley insists rather strongly, as he had known dangerous and even fatal effects to arise from the contact of the end of a catheter with the posterior part of the viscus. The catheter may be removed in twelve hours, the guide having been previously introduced. A cure may be effected by this plan in seven days: but it is safer to extend the treatment over a fortnight. The advantages attending this system of treatment are stated by the author to be the following:—The rapidity, safety, and certainty, with which the stricture is removed; the permanency of the relief afforded; the avoidance of false passages; the control which is obtained over the urethral canal; the great relief to the patient; the establishment of the flow of urine, and the facility with which the bladder is emptied; and the avoidance of the application of caustics or similar measures. Most complicated cases of stricture might be successfully treated in this way. It was often necessary to use great patience, and to persevere for days even until the instrument could be made to enter the bladder. Mr. Wakley then briefly points out that the same plan of treatment might be applied to non-malignant strictures of the œsophagus and rectum, and to dilatation of the cervix uteri.

ART. 129.—*The results of one hundred Lithotrity Operations.*
By Dr. V. v. IVANCHICH.

(*Wien Wochenschrift*; and *Med.-Chir. Review*, April, 1857.)

In this paper Dr. v. Ivanchich, of Vienna, furnishes a chronological list of 100 cases of lithotrity that have occurred to him, giving the name of each patient, and a very short summary of the particulars of his case. The following are the conclusions he arrives at from a general view of the whole number. 1. The *ages* were as follows:

18 and under 20	.	.	.	.	.	4
20 ," 30	.	.	.	.	.	1
30 ," 40	.	.	.	.	.	3
40 ," 50	.	.	.	.	.	9
50 ," 60	.	.	.	.	.	31
60 ," 70	.	.	.	.	.	35
70 ," 76	.	.	.	.	.	17

2. There were 3 females, and 97 males. 3. Of the 100 patients, 87 recovered, and 13 died. Six of the recoveries, owing to the presence of other important complications, were incomplete; complete recovery, therefore, taking place in 81. Eight of the 13 deaths were due to fatal causes foreign to the operation, so that but 5 of these actually ensued from the operation itself. 4. The calculi in 5 cases were composed of oxalate of lime; in 4, the nuclei were of uric acid, and the exterior phosphatic; in 31 there were phosphatic, and in 60 uric acid calculi. 5. The séances averaged about 8. 6. The mean duration of the lithotriptic treatment was thirty-six to thirty-seven days. 7. The greatest weight of the calculous mass that was removed exceeded 32 drachms (8 Loth); the least amounted to a drachm. 8. Among the 100 cases there were 10 single and 2 double relapses. 9. Fifteen of the operations were performed under partial or complete narcosis, verifying the correctness of the conclusions drawn by the author in his essay upon the advantage of inducing narcosis in lithotripsy. 10. The patients were natives of the following countries:—32 Austria, 32 Hungary, 5 Bohemia, 4 Moravia, 4 Servia, 4 Hamburg, 3 Bavaria, 3 Russia, 2 Croatia, 2 Saxony, 2 Prussia, 1 Galicia, 1 Italy, 1 Sclavonia, 1 Dalmatia, 2 Hanover, and 1 Moldavia.

(c) CONCERNING THE UPPER EXTREMITY.

ART. 130.—*Reduction and dislocation of the Humerus by manipulation without extension.* By Mr. WORMALD, Assistant-Surgeon to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, Feb. 7, 1857.)

In a case recently under his care in St. Bartholomew's, in which a very fat woman was the patient, Mr. Wormald succeeded in reducing an old (six weeks) dislocation of the humerus by manipular movements, without extension, on the principle now almost universally adopted with those of the femur. The humerus differs from the femur in having an almost straight shaft up to its articular end, and no leverage can therefore be obtained, as in the case of the head of the femur, which is almost at right angles to its shaft. By bandaging a rectangular splint to the arm and forearm, Mr. Wormald made the latter into a lever, by which to act upon the former. The operator's knee being put under the patient's elbow as a fulcrum, the forearm was depressed, and the bone lifted into its place. The patient was under chloroform, and reduction occupied only about ten minutes. For ordinary cases this plan will, of course, not supersede the very simple and effectual ones already in use, but in those difficult of reduction it is worth being had recourse to.

ART. 131.—*On resection of the Elbow-joint by a single long incision.*

By Mr. PAGET, Mr. FERGUSSON, and Mr. ERICHSEN.

(*Medical Times and Gazette*, Dec. 13, 1856.)

The adoption of the single incision in resections of the elbow-joint, which has been done almost simultaneously by three of our London surgeons, appears to be an important simplification of the former methods. It has been repeatedly shown on the dead subject since 1853 by Mr. Spencer Wells. The old plan, and that yet used by many surgeons, was by incisions in the form of the letter H; then it was found that the long cut on the radial border of the joint might be dispensed with, and that a T-shaped one gave ample room. The last improvement, and one for which we are indebted to Langenbeck, is the omission of the cross cut also. The last-named surgeon has for many years been accustomed to operate by means of a single long incision on the inner edge of the ulna, and asserts that the lateral separation of the soft parts thus afforded gives ample space for the operation, while, as must be apparent, it leaves the bones much better covered, and the wound a much smaller one than would otherwise be the case. A house-surgeon of M. Langenbeck's, being in London, visited most of the hospitals, and mentioned to the surgeons his preceptor's practice; hence its adoption early last October by three surgeons within a week or two of each other. Mr. Paget was, we believe, the first. His case was that of a young man whose left elbow was the seat of old disease. There were large scars of former incisions, numerous sinuses, from which the discharge was profuse, and very great thickening of the soft parts. The ligaments and other structures around the joint were all in a pulpy condition, and no division of them with the knife was required. The ends of the diseased bones were readily turned into the wound, and sawn away with a key-hole saw, cutting from before backwards. The incision was necessarily a long one, and from the infiltration of the soft parts much gaping of the wound occurred, but not nearly so much as there would have been had the transverse incision been practised. The case is doing well, the swelling is subsiding, and the healing process slowly progressing. Mr. Fergusson's patient was a girl, aged 11, the operation being done on October 4th. The disease was of eight months' standing; there were several open sinuses, and much surrounding thickening of parts. The healing was rapid, and is now nearly complete; fair motion having been obtained. Mr. Erichsen's patient was an old man of 63, whose left elbow had for six years been the seat of disease. Some pieces of necrosed bone had been removed; but the disease persisting, it was determined to resect. The operation was done on October 16th, and in spite of two attacks of erysipelas, the healing was going on most rapidly. At present, excepting one very small sinus, it is complete. The man is able to go about, and is much improving in health. The elbow has fair motion, and all thickening of the parts has subsided. We may add, that in these cases the operators all express themselves as

highly pleased with the new mode of operating, and quite intend to employ it in future cases. There can be little doubt but that in the latter two cases, the last especially, the healing process has been very much more speedy than it would have been had a transverse incision also been made.

(D) CONCERNING THE INFERIOR EXTREMITY.

ART. 132.—*On excision of the Hip-joint.*
By Mr. ERICHSEN, Surgeon to University College Hospital.

(*Lancet*, March 28, 1857.)

"If," says Mr. Erichsen, in a recent clinical lecture, "we look at the hip-joint in a surgical point of view, we shall see that it is composed of three distinct parts—viz., the soft joint-structures, the head of the femur, and the acetabulum. Now, any one of these divisions of the joint may be primarily and even separately affected; and we may accordingly divide hip-joint disease, or coxalgia, into the three varieties of *arthritic*, *femoral*, and *acetabular*. This division is not only a pathological arrangement, but it is of a truly practical nature, having a special bearing on the question of excision.

"1. *Arthritic hip-disease*.—This is usually an acute inflammatory affection, attended by those local signs and constitutional symptoms that are characteristic of deep-seated and severe articular inflammation. The joint becomes hot and swollen, and is exquisitely sensitive; in fact, the pain that the patient suffers is more severe in this than in any other form of arthritis with which I am acquainted. The sufferings are greatly aggravated at night, and by the startings and convulsive twitchings that occur in the limb when the patient falls to sleep. It is impossible to move the patient, the slightest disturbance—merely laying the hand on the limb, or even touching the bed, or shaking the room by walking heavily across it—brings on paroxysms of intense pain. This variety of the disease chiefly occurs in young adults, often arises from exposure to cold and wet, and usually terminates in ankylosis without suppuration. Abscess may form, and dislocation of the head of the femur take place; but this I believe to be rare, and not to occur unless the bones become secondarily implicated.

"The treatment of this form of the disease is simple. It consists in the administration of calomel and opium, with leeches to the hip, fomentations, and perfect rest. In the early stages a splint cannot be borne; but as the disease advances, it becomes necessary to apply one; and then this should be done under the influence of chloroform. Indeed it is not unfrequently necessary to give chloroform in order to change the sheets, or attend to the cleanliness of the patient, so great is the suffering produced by change of position.

"In this variety of coxalgia, excision is not necessary: under proper management the head of the bone may always be brought into or kept

in sufficiently good position for ankylosis to take place, so that a straight and useful limb may be left.

"In this case you will see all the leading features of the acute *arthritic* form of hip-disease. Its occurrence in a young adult, its rheumatic origin, the severity of the attendant inflammation, the acuteness of the suffering, and its termination by ankylosis without suppuration, are all characteristic signs.

"Before leaving this part of the subject, I wish to say a few words about the ankylosis that occurs in these cases. When this is *complete*, the osseous structures being fused together, I believe that no attempt should be made to restore the mobility of the limb. I have heard of surgeons cutting down upon and sawing across the neck of the femur, but I cannot think that such an operation is expedient, and would not advise you to attempt it. In this form of ankylosis the limb is usually everted, but not much shortened, and the patient soon walks readily and with little stiffness, owing to the increase of mobility that takes place in the lumbar spine, and which makes up for the rigidity of the hip.

"When the ankylosis is *incomplete*, much may, however, be done to restore the utility of the limb. In these cases, the head of the bone may continue in the acetabulum, and then there is no shortening, but merely adduction of the limb and some flexion of it, the patient being unable to bring the heel to the ground. You will recollect seeing a case of this kind brought into the theatre about six weeks ago, in which I successfully adopted the same plan that we have so often advantageously employed in cases of contracted knee—viz., forcibly extending the limb under chloroform.

"If dislocation of the head of the bone on to the dorsum ilii has occurred without previous suppuration, reduction may sometimes be effected. Two or three years ago, a woman was under my care at the hospital in whom this had happened, owing to softening and destruction of the ligaments of the joint. We, however, effected reduction under chloroform. We had great difficulty in retaining the head of the bone in the acetabulum, and as she one day fell and broke her thigh, we were obliged to desist from further attempts. The case, however, illustrated the fact, that in some cases of spontaneous dislocation in hip-disease, reduction may be accomplished.

"2. The *acetabular* form of hip-disease differs widely from the last variety of this affection. In it the primary seat of disease is the pelvic bones, and the joint becomes involved secondarily by the implication of the acetabulum. This variety of the disease chiefly occurs in adults, always goes on to suppuration, never to ankylosis, and is, I believe, invariably fatal. It usually commences with abscess in the iliac fossa, or at some point within the pelvis. This abscess may descend by the side of the rectum, or pass out through the sciatic notch, under the gluteal muscles, or may find its way under Poupart's ligament, on to the fore part of the thigh. At first there is usually no pain in the hip; but after a time the joint becomes tender, the pain increases, and at last becomes severe. Motion of the limb is impossible. There is neither shortening nor elongation except at the later stage, when

possibly the head of the femur may slip through a carious cavity in the bottom of the acetabulum into the pelvis. Death eventually occurs from hectic. On examination, the pelvic bones will be found more or less extensively necrosed ; the acetabulum is carious, rough, and probably perforated ; the head of the femur, which is lying in this cavity, is deprived of its incrusting cartilage, and is more or less eroded, but in a much less degree than the acetabulum and neighbouring pelvic bones, especially the ilium. Large intra-pelvic abscesses and extensive sinuses will also be met with.

"The treatment of this form of hip-disease is in the highest degree unsatisfactory. The patient's powers must be kept up, but he will eventually sink from hectic. Excision of the hip-joint is of course not practicable, on account of the amount of osseous disease and the extensive implication of the pelvic bones.

"3. The *femoral* form of coxalgia is that variety of the disease in which the head of the femur is primarily affected by caries, often of a tuberculous character, the articulation becoming secondarily involved by extension of diseased action from the osseous structures. It occurs in strumous children, is usually subacute for a time at least, and is attended by the early formation of abscess. The collection of pus that forms around the joint will sometimes present in the gluteal region ; but in other instances, as in two patients in whom I have excised the head of the femur, the abscess will pass down under the fascia lata and tensor *vaginæ* femoris until it reaches the outer part of the middle of the thigh, where it points, and where sinuses are established. After the disease has continued in a subacute form for some time, symptoms of active arthritic inflammation will often set in ; the joint becomes destroyed, and the carious head of the bone is dislocated upon the dorsum ilii, where it lies in a suppurating cavity. In favorable cases, the abscess gradually contracts, the carious bone is thrown off, and false but firm ankylosis of the head of the femur in its abnormal position takes place. In other cases, however, the caries is progressive, profuse discharge is kept up, hectic sets in, and, unless the source of this mischief is removed by excision, the patient will soon sink exhausted.

"In this form of the disease the pelvic bones are not usually implicated—never primarily ; and if they become so as the affection advances, it is by the extension of the morbid action to other osseous structures than the head of the femur. In the great majority of instances the cartilaginous incrustation of the acetabulum is removed, and its place is taken by a fibroid fungous growth, which fills up the cavity. This fungoid mass is analogous in structure and appearance to the plastic deposits that we see thrown out in other joints after the destruction of the incrusting cartilage of bones, and is evidently an attempt at repair set up in the articulation.

"The characteristics of the *femoral* form of coxalgia, then, are—the occurrence of the disease in children ; the subacute character of the affection in its early stages ; the sudden aggravation of the symptoms ; the formation of extensive abscesses ; followed by dislocation of the carious head of the bone on to the dorsum ilii, and the absence

usually of all disease, certainly of all primary disease, in the pelvic bones.

"It is in this form of hip-disease alone that operation is a proper procedure, when Nature fails in throwing off the carious bone, and in establishing ankylosis between the remains of the head of the femur and the dorsum of the ilium on which it is lying.

"The following case in which we lately performed this operation, illustrates well some of the points first adverted to."

CASE.—*Tubercular disease of the head of the left femur.*—William W—, æt. $7\frac{1}{2}$, was admitted into University College Hospital on Monday, the 22d of December, 1856. His father, a sawyer, is strong and healthy; but his mother died of consumption, aged twenty-six. About the Christmas of 1853, he went to live with his grandmother in Sussex, and is described as being a very fine healthy boy. While there, he fell from a donkey, soon after which he began to walk lame; he suffered also from measles, which were followed by hooping-cough; and he became greatly emaciated and very lame.

In October, 1854, he was admitted into University College Hospital, where he remained for about six weeks. His general health deteriorated, but his lameness improved, so that he was able to walk with crutches.

At the end of January, 1855, he became an out-patient at St. Bartholomew's Hospital, where he improved, with the use of tonics and putting the limb in splints.

In April, 1855, he became an out-patient at the Royal Orthopædic Hospital, and remained under the care of the surgeons of that establishment for fourteen months.

In April, 1856, he was able to get to school with crutches, and get upstairs and down without assistance.

December 15th.—Mr. Erichsen opened a large prominent abscess over the head of the left femur, and a large quantity of cheesy-looking matter and healthy pus escaped. Rest, iron, cod-liver oil, and poultices were ordered.

22d.—Admitted into University College Hospital. He is very weak and emaciated; sweats profusely at night, though in the daytime skin is dry, harsh, and scurfy. His appetite is pretty good; tongue clean, rather red at the tip and edges; thirst more than natural; the stools healthy and regular every day. There is slight cough, from which he has not been entirely free since 1853. There is extensive dulness on percussion both under and above the right clavicle; the respiratory murmur is here harsh and deficient, and the expiration prolonged. The left leg is shortened about two inches and a half. Over the hip-joint is a prominent swelling; the skin over it is red and excoriated, especially round two openings situated at the upper and outer part of the thigh. On introducing a probe about two inches through these openings, it is found that they both impinge on dead bone, situated above the back of the acetabulum. On rotating the thigh, its head is found to be on the back of the ilium. The thigh is flexed on the abdomen, and the leg on the thigh, owing to the contraction of the ham-string tendons. He always lies on his right side, with the body bent forwards. Cod-liver oil, one drachm, three times a day, with meat and wine.

26th.—An abscess was opened by a small incision at the junction of the upper and middle third of the thigh, to the outer part, giving exit to four ounces of laudable pus.

Jan. 1st, 1857.—The purulent discharge from the abscess and the night-

sweats more profuse. The appetite and strength are materially diminished. Continue diet and oil, with four ounces of wine.

7th.—The boy being under the influence of chloroform, Mr. Erichsen passed a probe through the upper wound, and found the head of the bone carious, and lying on the dorsum of the ileum, close above the acetabulum. He then made a T-shaped incision over the head of the bone, and divided the fibrous structures which held it *in situ*, and then the head being well pushed out of the wound, and the soft parts guarded by an assistant, he cut through the trochanters, from within outwards, by means of Butcher's saw; a very small portion of carious bone was gouged from the brim of the acetabulum. Three small arteries were ligatured. One suture was put into the lower part of the wound, and the whole dressed with wet lint. The limb was put up on a long splint, bracketed over the wound, but the leg could not be quite straightened, owing to the contraction of the ham-string tendons.

14th.—The patient's general health seems better; he is cheerful, and takes his food with relish. The discharge from the wound is profuse, but healthy. The ligatures came away on the third day, the suture on the first. To-day, the splint was re-applied, the child being previously put under the influence of chloroform, which easily affects him, but makes him feel sick all the rest of the day, and his head throb severely.

21st.—The boy is improving slightly in general condition; the discharge is profuse; a small collection of pus was let out close to the wound; the splint was re-applied. The leg is now quite straight, the rigidity of the ham-string tendons having altogether passed off. Charcoal poultices have been used from the day following the operation, and are to be continued.

28th.—The boy has greatly improved since last report. He sits up in bed, takes his food well, and the discharge is but trifling, the wound looking clear and granulating healthily.

ART. 133.—*On the American Splint for Fracture of the Femur.*
By P. B. MANSFIELD, Assistant-Surgeon R.N.

(*Dublin Hospital Gazette*, March 15, 1857.)

This form of splint is extensively used throughout the United States, in cases of fracture of the femur. Mr. Mansfield writes as follows:

"A long splint, something narrower than Dessault's, well padded, and fitted exactly as a crutch, extends from the axilla five or six inches below the external malleolus. It is confined in the usual way, to the body, by a very wide duck belt.

"On the inner side, a shorter splint extends from the perinæum, where it fits most exactly and easily, downwards, to the same distance below the foot as the outer splint.

"These splints are connected by three thin iron bridges, capable of being bent, so as to allow of the splints being approximated, when necessary, or of being drawn apart, to give room for opening the Scultetus bandage, in cases of compound fracture. They also (a point of great importance) form an excellent cradle, and protect the leg from pressure of the bed-clothes, as well as support it.

"At the ends, the splints are connected permanently by means of "a crosspiece," which keeps them wide enough apart to prevent pressure on either ankle, and to allow space enough for padding, of which there is an ample supply inside each splint.

"A wide strap of adhesive plaster (spread on strong duck) is applied to the leg (before the bandage), commencing at the knee-joint, on either side; it is continued downwards, and leaving a *loop* of two or three inches under the sole, is taken up on the other side, to the point corresponding to that from which it started. This loop, when the splint is adjusted, should reach to within three or four inches of the "crosspiece," around which, and through the *loop*, is passed a piece of bandage; this being knotted, draws the "loop" as near the "crosspiece" as possible.

"A piece of wood to form a handle, is now placed between the piece of bandage and the "crosspiece," which an *assistant*, twisting, and using traction at the same time, causes the bandage to shorten so much, that a gentle and steady extension is made, while the surgeon coapts the fractured parts with great facility, and but little pain to the patient.

"The handle can be easily prevented from untwisting, by simply tying it down on the "crosspiece;" and even if, by the stretching of the plaster or bandage, the leg should shorten a little, a few *twists* of the handle will set all to rights again, without any trouble. I might suggest that a plain leather strap and buckle, passed round the "loop" and "crosspiece," with a good number of holes, placed near each other, might be substituted for the handle and bandage.

"Being, I may say, comparatively unknown at home, its novelty, as well as utility, and means of comfort to the patient, may make it a not unsuitable subject of a notice. The points in its favour are, that it makes "extension" and "counter-extension" easy, certain, and attended with very little pain, whilst coaptation can be nicely performed; all this is accomplished almost *at once*, and effectually, and frequent disturbance is rendered unnecessary. Lastly, extension is made from the *entire* leg, instead of the *instep*; the "cross-piece" protects *both* ankles from pressure; and the axilla, becoming a *second* fulcrum, relieves the perinæum to a very great extent.

"I have seen five cases turn out very creditably; and have no doubt that if introduced into our own hospitals, in a short time, having undergone, probably, many little improvements, it would become a favorite mode of treatment."

ART. 134. *Case of Amputation through the Knee for chronic disease of the Joint.* By Dr. MARKOE, Surgeon to the New York Hospital.

(*New York Journal of Medicine*, Nov., 1856.)

Commenting upon this case, Dr. Markoe says, "However highly we may estimate the advantages of this amputation in certain cases, it is not contended that it is applicable to all, and perhaps not even to the

greater part of cases of the knee-joint disease. There is no doubt that many such cases are and always will be most safely and most wisely treated by amputation through the thigh. It becomes, therefore, a matter of importance, that we should be able to discriminate between those suitable for, and those not admitting of, this operation. In the absence of large experience on this point, I would suggest the following as cases in which the attempt to save the end of the femur is contraindicated :

" 1st. All those cases in which the spongy extremities of the bone are suspected to be primarily diseased, as is known to be frequently the case in young scrofulous subjects. We have several specimens in our museum, showing that in these cases the whole expanded extremity of the femur has become softened, infiltrated with the products of unhealthy inflammation, and therefore probably unfit to bear the violence of the saw, and unable to recuperate soundly after such violence had been inflicted. Closely allied to these, in their destructive effects upon the bone-tissue, are those cases in which disease commences, in young persons, in the cartilaginous substance joining the epiphysis to the shaft of the femur. Of this we have also preserved at least one specimen in our collection, and many more have been observed. It becomes, in these latter cases, an interesting question, whether the operation here advocated might not be so modified as to make a separation of the bone at the point of junction between the diseased epiphysis and the shaft, thereby leaving a somewhat expanded extremity to the femur, on which some pressure could probably be borne.

" 2d. All those cases in which the synovial capsule is very much distended, and the coverings of the joint thinned. It is well known that this distension of the synovial capsule is of much less frequent occurrence than was formerly supposed. It does, however, sometimes occur, as in cases where destructive inflammation has followed injuries to the joint, and in some rare instances of idiopathic synovitis passing on to suppuration. The capsule is sometimes distended, as in a case recently dissected, by a large quantity of the curdy precipitate which forms so common an element in strumous pus. This custard-like substance, which is, without doubt, aplastic fibrin infiltrated with pus-globules, sometimes distends the capsule to its utmost capacity, without there being present any proper pus or even any serum sufficient to give the mass less than a semi-fluid or jelly-like consistency. In all these cases, the unfavorable circumstance is, that the distension, from whichever cause it may occur, acts principally upon the reflexion of the synovial sac which lies under the tendon of the extensors of the leg, and not only thins and disorganizes the integuments covering it, but presses the sac up the thigh, so as to form a large diseased pouch, which must necessarily be left behind in the amputation at the joint.

" 3d. All those cases in which large or numerous abscesses have taken place round the joint, undermining the skin, and thereby unfitting it to form part of the flap. Observation has shown us, that the suppuration which occurs in the later stages of these diseases, is almost invariably outside of the synovial capsule, having at first no direct communication with its cavity ; and that in those cases where the

joint is most enlarged, and fluctuates most markedly, the synovial cavity is found to present the same alterations as in those where there is less enlargement and no fluctuation, that the difference is found to consist in these large extra capsular and most commonly subcutaneous abscesses. These abscesses must necessarily be very disadvantageous to the result of any operation performed through them. Their independence of the synovial cavity, however, gives rise to this practical suggestion. Open them early and freely, and though by so doing we may not in any degree ameliorate the primary joint-disease, yet we may sometimes hope to save the patient the pain and the exhaustion consequent upon large suppuration, and we may preserve the integuments round the joint in a condition of soundness to warrant an amputation at the knee.

"These three classes of cases seem to me to be those in which the operation in question is most evidently contraindicated. There are, however, no doubt many other less obvious conditions of the joint bearing upon the question of amputation at the knee or through the femur, which can only be fully appreciated after further and carefully considered experience."

The case is as follows :

CASE.—Catharine S., æt. 22, was admitted into the New York Hospital, September 11th, 1856, with a chronic affection of the left knee-joint. She said that her disease had commenced about three years before, in consequence of a blow received upon the front of the patella which had been followed by a chronic inflammation, from which the joint has never since been entirely free. The disease of late has increased so much in severity as to disable her entirely. The joint presented the usual appearances of chronic inflammation of the synovial membrane, and as such it was treated by local depletion, counter-irritation by blisters and issues, with absolute rest, and careful attention to her general health. She received no benefit from our treatment, nor were we able to give her any considerable relief from her sufferings. The pain in the joint became nearly constant, much aggravated at night so as to prevent her from sleeping, and much increased by the slightest motion of the limb. The whole joint, by the end of November, had undergone a change in its appearance. It was uniformly swelled on all sides, firm to the feel, superficially not tender to handling, but deep pressure giving a great deal of pain. The patella was rigid and fixed in its position. There was no manifest fluctuation, and no evidence of suppuration external to the joint. The integuments were sound excepting the scars of two issues, which by accident had been placed immediately over the joint, instead of a little distance from it. Her general health was remarkably good for one who had suffered so much and so long. Discouraged by the failure of treatment, and worn out by pain and want of sleep, she begged to have the limb removed; and on consultation, seeing no prospect of a cure, it was determined to accede to her request. The soundness of the integuments, and the moderate distension of the joint, seemed to make this a favorable opportunity for trying Syme's amputation at the knee-joint, and, with the approbation of my colleagues, it was accordingly performed, on the 3rd of November, 1855. The operative procedure differed entirely from that recommended by Mr. Syme, and adopted by Mr. Fergusson. In fact, I proceeded precisely as in amputating through the healthy knee-joint, by making a long anterior flap and a short posterior one, and disarticulating by cutting the crucial and lateral ligaments, after dividing

the ligamentum patellæ close to the patella. A small quantity of thin curdy pus flowed out, on opening the joint. The whole synovial surface was found inflamed, thickened, and secreting thin pus, which did not, however, exist in quantity sufficient to distend the capsule. The articular surface of the femur was found denuded, to a considerable extent, of its cartilage, with irregular erosions of the bone, and with several fragments of its compact covering necrosed and buried down among the ulcerated hollows of its surface. The patella was denuded in one spot of its cartilage, and was so far diseased that it was thought best to remove it. In doing this, it was noticed that the synovial cul-de-sac above the patella was much thickened and degenerated, and it was accordingly dissected out entire, a proceeding which was accomplished very easily, the firm and thickened condition of the membrane giving great advantage in seizing it for dissection. This left all the structure in front of the joint sound, though some portions of diseased synovial tissue were left behind and on either side. The surface of the condyles of the femur was then sawn off, and smoothed and rounded with the bone forceps, so as to present as broad and even a surface as possible on the face of the stump. The wound was brought together with five or six sutures, and dressed with cold water. Seven or eight ligatures were employed.

She slept badly the night after the operation, suffering much pain in the stump. I found it next morning very much distended with coagulated blood. The stitches in the middle of the flaps were cut, thereby relieving the tension and allowing the blood to flow out; and as there seemed no disposition to further haemorrhage, a large poultice was applied to hasten the separation of the coagula. Some oozing occurred next evening, which induced the house-surgeon to take off the poultice, and apply cloths wet with very cold water, and to remove the remaining stitches.

Nov. 8th.—No further bleeding has occurred. The flaps are gaping wide apart, and beginning to suppurate, the clots having mainly broken down and come away with the commencing suppuration. The edges of the wound were now brought together with adhesive plaster, dressed with unguent. peruv., and supported by a light bandage. Her general condition is good, tongue clean, relishes her food, sleeps well, and is, in fact, free from constitutional irritation. She is able to hold up her stump herself to be dressed, which, in the unwieldy condition of the heavy, gaping flaps, has proved a great advantage.

The wounds healed gradually and soundly by granulation, without any exfoliation of bone, or any other unfavorable symptom. The stump, when healed, presented a somewhat irregular and puckered scar, which, however, lay behind and between the two condyles, in such a manner that the face of the stump presented no cicatrix, where the pressure on the artificial limb would be borne. She tried for a week or two, before going home, a peg leg with an air cushion, and for a recent stump it was found to bear the pressure extremely well. She left the hospital May 19th, 1857.

ART. 135.—*On excision of the Knee-joint, &c.*
By Mr. BUTCHER, Surgeon to Mercer's Hospital.

(*Dublin Quarterly Journal of Medicine*, Feb. 1857.)

This is Mr. Butcher's second memoir on this subject. In it he details the cases operated on since his first memoir (*v. "Abstract," XXI*, p. 321), and he introduces a few cases which he had overlooked when this memoir was published. The cases related are fifty-one in number, ten ending fatally, and seven requiring amputation of the

thigh subsequently. The whole subject is carefully examined, and the practical surgeon will, we are sure, thank Mr. Butcher for bringing this large amount of evidence together. We refer to the memoir itself, which is published separately, for special information, merely noticing the answers which Mr. Butcher supplies to two very important questions.

Mr. Butcher asks :

" 1. *Does an error in diagnosis, as to the suitableness of a case for excision, debar the patient from the likelihood of cure by amputation?* Certainly not. The patient is insensible, and, therefore, suffers no prolonged shock ; and if the bones are found extensively diseased, I would say, to the terminations of their expansions, amputation should be performed at once ; otherwise, if life be preserved, the limb would only be a useless appendage. Now I shall bring to bear upon this point a very interesting case by Mr. Hutchinson, Surgeon to the Metropolitan Free Hospital, and detailed to the Pathological Society of London. A boy had been subject to chronic disease of the right knee for four years ; until within a month of the operation, no abscess had ever broken externally. When placed under Mr. Hutchinson's care, the history was—that for the last six months the joint had been getting much worse, and that the boy's health was failing. Believing the case a suitable one, Mr. Hutchinson advised an excision of the joint. In the performance of that operation, the following condition of parts was found : the articular cartilages were everywhere removed, and the opposed surfaces of bone, except where united by adhesions, were in a state of caries. There was a deep ulcer, extending into the patella, the cavity of which would have contained a filbert. In the left side of the head of the tibia was a cavity, into which, for the depth of half an inch, the first joint of the finger entered easily. The condyles of the femur having been sawn away, two patches of yellowish material, infiltrated into its cancellous tissue, were seen ; and also the cavity of an ill-circumscribed collection of pus. A second slice of the bone having been removed, a nearly similar condition of things was still found—a small abscess lined by tough lymph, and capable of holding a small nut, having been opened. It was thus made evident, that unless by shortening the limb to an extent which would make it useless, it would be impracticable to cut away all the diseased bone, and amputation was accordingly decided on and performed. Mr. Hutchinson remarked, that the pathological interest of the specimens consisted in their showing several distinct abscesses in the bone, and in the circumstance that the existence of them had not been rendered probable, by the severe pain usual in such cases. With regard to the operations, he believed that, although it had not been deemed wise to persevere with the excision, *his patient had lost nothing whatever by the attempt made to save his limb.* He had been, throughout its performance, in complete insensibility from chloroform, and within six hours afterwards was in as good a condition as he could possibly have been after amputation only.

" As to the second question—*Is amputation likely to be successful when performed some days after excision, owing to some unfortunate circumstances having arisen?*—the cases in the foregoing report

answer in the affirmative. In seven instances amputation of the thigh was performed, and all made rapid recovery, save one. How satisfactory this return as contrasted with the result of the wholesale lopping off of limbs."

ART. 136.—*Case of dislocation of the head of the Tibia forwards upon the thigh-bone.* By Dr. S. Gross, Professor of Surgery in Jefferson College, Philadelphia.

(*North American Medico-Chirurgical Review*, March, 1857.)

CASE.—A very large fat woman, weighing nearly two hundred pounds, married, and forty-eight years of age, while engaged in feeding her poultry, sustained a severe fall in consequence of the sudden slip of the right foot, which, bending outwards, thus caused the whole weight of the body to be thrown upon the corresponding knee. I saw her four hours after the occurrence of the accident, when several fruitless attempts had been already made at reduction. The knee, which was very painful and a good deal swollen, especially on the inside, appeared to be unusually wide from side to side; a circumstance partly due to the tumefaction of the soft parts. The leg was one inch and a half shorter than the opposite one, and in a straight line with the thigh. The patella had sunk behind the head of the tibia, into a sort of hollow, which gave to the front of the joint a flattened appearance. Upon grasping the bone, however, with the thumb and fingers, it was easily drawn forwards, leaving a remarkable vacuity behind, in consequence of its distance from the inferior extremity of the femur. The condyles of the thigh-bone lay in the popliteal space, posterior to the head of the tibia, where they formed a large prominence, more distinct on the inside than on the outside, and situated, as it were, in the upper and back part of the leg, the muscles of which were unusually tense. The head of the tibia lay in front of the condyles, where its outlines could be easily traced with the eye and finger. Above this bone, as already stated, was the patella with its ligament and the tendon of the extensor muscles, forming a broad, thick cord in front of the thigh-bone, from which it was removed more than two inches. The leg was easily drawn away from its fellow, but could not be carried inwards, showing that there was extensive rupture of the internal lateral ligament. There was no contusion of the soft parts, nor any discoloration of the integuments.

Chloroform having been administered, a stout lac was applied to the upper part of the thigh, and confided to an assistant, to make the requisite counter-extension, while extension was made by another assistant grasping the foot, the limb being in the extended position. Placing now my left forearm behind the knee, and requesting the aids to pull gently and steadily, I suddenly, with my right hand, bent the leg backwards, and thus in a few seconds effected the reduction, the bone slipping into its proper situation with a distinct "snap." The limb being placed in an easy position, cold cloths were applied to the knee, and a grain of morphia administered to allay pain and prevent spasm.

No untoward symptoms appeared after reduction. The patient kept her bed for nearly a fortnight, and medicated lotions were applied, after the first twenty-four hours, to moderate and subdue inflammation. Purgatives and

light diet were also enjoined. In due time passive motion was instituted; the limb was frequently bandaged; and in less than a month from the accident, the woman was able to walk about the house with the aid of crutches. The joint, however, remained weak for a long time, and even now, several years after the occurrence of the injury, the slightest fatigue is attended with temporary lameness.

ART. 137.—*On the most eligible spot for the performance of Amputation of the Leg.* By M. LARREY and others.

(*Gaz. des Hopitaux*, Nos. 116-131, 1857; and *Medico-Chir. Rev.*, Jan., 1857.)

A prolonged discussion upon this subject has recently taken place at the Société de Chirurgie. M. Larrey took occasion to observe, that the soldiers who have of late arrived from the Crimea, having had amputation performed at the middle third or lower part of the leg, were in so bad a condition as to lead to the conclusion that amputation at the place of election must in the end prevail. The difficulty in employing artificial limbs is so great, and the accidents which result are so numerous, that the patients at last find themselves obliged to resort to the wooden leg. M. Chassaignac, believing our first duty to be the preservation of life, thinks we should never resort to the place of election when we can perform supra-malleolar amputation. M. Verneuil stated that he had paid much attention to the ulterior effects of amputations, and he thinks that supra-malleolar amputation has been too exclusively recommended. There can be no doubt but that the immediate mortality is far less than after the old mode; but we should also take into account the amount of ulterior benefit derivable by the patient. Startling as the assertion may seem, he thinks that in certain cases it is better to run the chance of a greater mortality than to perform an operation that may prove useless and require repetition. Supra-malleolar amputation is much oftener followed by conicity and other defective states of the stump, than is amputation high up; while osteitis, caries, or necrosis of the bones of the leg, is a more frequent result. This last usually has occurred when the operation has been performed for disease of the tibio-tarsal joint, the osteitis of the bone having spread from the disease of the joint. The first results of the operation are deceptive—for it has an antiphlogistic effect—and for some months the patient may seem cured; but later, either spontaneously or from slight causes, the osteitis is reproduced, and may necessitate secondary amputation. Therefore, whenever amputation is performed for disease of this joint, it should be practised at the upper third. But in traumatic affections, and in disease of the bones of the foot, in which those of the leg but little participate, the supra-malleolar operation is preferable.

M. Guersant has found, in operating upon children, that the mortality is the same in both localities; but from his patients having in after-life to provide for their living, and finding difficulty in getting artificial limbs, he prefers operating at the place of election. M. Huguier dwelt upon the relative safety of the supra-malleolar operation, having lost only one patient in fourteen cases; but he admits

that the predilection for this operation which his success imparted to him has undergone considerable modification on observing its ultimate consequences. These never follow when the operation is performed for traumatic lesions, and he does not recommend it in the case of white swelling. M. Broca admits that many patients who have undergone supra-malleolar amputation, have suffered severe accidents from want of a suitable prosthetic apparatus; and great is the inconvenience produced by the long stump when a wooden leg is resorted to. Still these effects are as nothing when compared with the greater safety of the operation; and while it is admitted that five sixths of these patients recover, more than half of those die who are operated upon at the place of election. Even in those cases when necrosis demands another operation, secondary amputation is less fatal than primary. As to the question of the ultimate effects of the two operations upon the stumps, after amputation at the place of election, the patient rests upon his knee, which gives him a firm support, but he is deprived of the power of flexion and extension of the joint. After the supra-malleolar amputation, the artificial limb is supported at the ischium, and a hinge-joint allows of such movements at the knee, that it is quite surprising how perfect a substitute the apparatus becomes. It is true that the poor only obtain ill-made apparatus, which frequently get out of repair, and often ultimately produce irritation and ulceration of the stump. Still it is the duty of the surgeon to perform that operation which saves most lives, and leave the supplying these defects to others.

M. Robert observed that if the relative amount of mortality were to decide the question, there could be no doubt about the preference. In children, however, amputation at the place of election is preferable, for the mortality is not greater, while there is difficulty in fitting a prosthetic apparatus and necessity of changing it. Even in the adult, the question of preference is doubtful, when the occupations of the patient are laborious, for he then often forsakes the artificial limb for the greater solidity afforded by the wooden leg. Then, again, the nature of the lesion should exert great influence upon our decision. When it affects the foot, but not the joint, the supra-malleolar operation is preferable, but it should not be had recourse to in the case of white swelling of the joint. M. Giraldès thought that the instances of the soldiers coming from the Crimea, given by Larrey, were hardly fair examples of the effects of supra-malleolar operations, inasmuch as such patients had suffered much in the ambulances, and in shifting from hospital to hospital. He believes that some of the evil results are due to the application of apparatus prior to complete cicatrization. M. Hutin stated that during the eleven years he had been at the Invalides, he had had more than two hundred soldiers under his care who had undergone amputation. In the great majority it had been performed at the place of election, or above this, and in not a single case had he observed any rupture or ulceration of the cicatrix. Among those patients, however, in whom it had been performed at the lower third, these were common. The fusiform disposition of these stumps, the almost constant presence of ulceration, and the inconvenience produced by the constriction of artificial limbs, induce

the patients to reject these in favour of the wooden leg. With this, the large projection of the stump behind is most inconvenient, and gives rise to the production of great irritation. During winter, the stump becomes cold, violaceous, tense, and painful, while ulceration of the delicate and unsupported cicatrix is almost constant.

ART. 138.—*Case of Dislocation of the Metatarsus upon the Tarsus.*
By M. MINONZIO.

(*Annali Univ. di Medicina*, June, 1856.)

Cases of this kind are very uncommon ; indeed, their existence was denied by Boyer and Astley Cooper. Dupuytren, however, related several well-marked cases ; and the case now related is not less marked.

CASE.—A man, æt. 60, strong and well, fell from a height of about eight arm-lengths, and alighted upon the toes of the left foot. At the moment of the fall he felt acute pain and a sense of cracking in the foot, and then he fainted. M. Minonzio saw him two hours later, and found the foot curiously distorted. This part was swollen and livid in consequence of a copious extravasation of blood ; it was shorter by full half an inch ; the plantar aspect had almost entirely lost its normal arch, and the dorsal arch presented a transversal ridge, behind which was a deep hollow. On examination, the posterior articulating heads of the metatarsal bones were distinctly felt upon the tarsus. Reduction was effected, after some difficulty, by extension and counter-extension. Some hours afterwards, a partial dislocation had taken place again, and the operation of reduction had to be performed anew. The inflammation in the parts ran very high, and it was necessary to remain in bed some weeks ; but in the end the patient was able to walk about without much difficulty, the foot being only very weak. The accident occurred on the 15th of December, 1854.

ART. 139.—*Cases of Excision of the Os calcis.*
By Mr. GREENHOW, Surgeon to the Newcastle Infirmary.

(*Proceedings of the Newcastle and Gateshead Path. Society*, 1856.)

Mr. Greenhow has previously removed the os calcis in four instances. In three of these the operation was successful ; in the fourth the foot had to be amputated. This amputation was successful, but the patient sank subsequently from phthisis. Mr. Greenhow has now recorded two additional cases, one being successful.

CASE 1.—Ann II—, æt. 32, married, was admitted June 1st, 1854, with scrofulous disease of the foot, in which the os calcis was implicated. The disease began about eight months ago. Fistulous sores on each side and back part of foot permit the probe to pass into diseased bone, which, on careful examination, appears confined to the os calcis. Her health is beginning to fail a good deal. She has night sweats, with occasional diarrhoea, and suffers much pain in the diseased part, from which is discharged thin, unhealthy pus in considerable quantity. With the view of improving her general health, cod-liver oil was given in half-ounce doses three times a day, and she was allowed generous diet. Much improvement

soon followed this plan of treatment, and on June 20th operative proceedings were determined on. She was, as usual, placed under the influence of chloroform, and an attempt was first made to remove the portion of diseased bone, without the entire excision of the os calcis. With this intention, an incision was made through the ulcerated parts of the integuments on the back of the heel. From the bone thus exposed some portions were extracted, but it was soon found that the disease was too general to admit of this mode of procedure being effectual. The incisions were therefore extended on each side of the foot to the inner and outer ankles:—behind, the incision thus made was about an inch above the apex of the heel, and was found to be extremely convenient for the completion of the operation. The bone was carefully exposed and separated from its connections with the astragalus and other bones of the tarsus, which were found in a healthy condition. Scarcely any bleeding attended the operation. The wound was drawn together by two or three sutures, and dressed with plaster and bandage, and the patient was carried to bed still in an unconscious condition.

June 21st.—She had a good night's rest, having had an opiate at bed-time. The foot was free from much pain.

24th.—Dressings were removed, and the wound was in a healthy condition. Simple dressing was applied.

28th.—Sutures removed, and is doing well. Appetite good, and gains strength.

In the course of July she improved much, and the wound was in a healing condition. One or two of the old openings still discharged, but she sat up during the day.

The improvements continued to advance till September 14th, when the wound was so nearly healed that a wax model was taken of the foot; and on the 18th she went home in excellent health, though not yet able to bear any great weight on the foot.

The direction of the incision in this case was somewhat different from those of former operations, but it had the advantage of preserving entire the sole, and the deformity was less than I had ever before observed. From these circumstances, I was induced to direct the knife in the same direction in the operation which was performed in the following case.

CASE 2.—*Excision of the os calcis and astragalus.*—Thomas K., æt. 20, labourer, was admitted July 3d, 1854, with disease of the right foot, which originated in childhood from a cart-wheel passing over the heel. The foot was greatly enlarged, and extended in such a manner as to oblige him to walk on the toes. The ankle-joint was partially moveable, but the elastic motion between the bones of the tarsus was very limited. Ulceration had occurred within the last few weeks, and a diseased condition of the os calcis was distinctly detected by the probe. His health had suffered from the local disease. An iodine lotion was applied to the seat of disease, and a tonic regimen was prescribed.

July 16th.—With the design of removing the os calcis, an incision was carried from the inner to the outer ankle, about an inch above the apex of the heel. The necessary dissection was pursued to expose the os calcis, but it was found impossible to separate it from the astragalus. In the hope of removing the whole of the diseased portion, I passed a saw from above downwards and forwards, thus severing nearly the whole os calcis and a portion of the astragalus, but a large cavity, filled with pus, seemed to occupy nearly the entire remaining portion of the latter bone. It was therefore separated from its attachments, and entirely removed. This left a large hiatus between the bones of the leg and the remaining portion of the foot,

and it hung very loosely. Though the chances of preserving it were but slight, an attempt was made to do so. Sutures, dressings, and side splints were applied. The posterior tibial artery was wounded, and required ligature.

In the evening he was easy, and the foot retained its temperature. An opiate at bedtime.

18th.—The foot cold, and sphacelus was taking place. He complained of much pain. Turpentine poultices were applied.

20th.—The foot was quite dead, and was separated by the knife from its attachment to the leg. The line of demarcation was complete, and no pain or haemorrhage attended this proceeding. Poultices.

22d.—Sloughs separating, and the stump looking more healthy.

28th.—The wound clean and healthy. Water dressings.

August 6th.—Doing well. Stump healthy, though the sloughing of the integuments has left a large granulating surface.

September 10th.—The stump has proceeded favorably. The sore greatly diminished, but the healing process did not go on rapidly.

The remarkably perfect union which had taken place between the os calcis and astragalus gave a peculiar character to this case; and after the removal of both those bones, which this rendered necessary, there could be but little chance of a favorable result without the amputation of the entire foot. Still it was perhaps not unjustifiable to ascertain what Nature (often so unexpectedly powerful in her results) could in this case accomplish. In a few days it became simply an amputation at the ankle-joint, and the end was a stump, perhaps more valuable than if the foot had been taken off above the ankle—though more time was necessarily required for the cure.

My attempt to save the remains of the foot in this case was not without a successful precedent, Mr. T. H. Wakley having removed, in December, 1847, both astragalus and os calcis in a patient, who did well. I may also notice that Mr. Statham, of University College Hospital, removed the astragalus with success.

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 140.—*Case in which a child was born after the death of the mother.* By Dr. SCHILLINGER, of Torgan (Prussia).

(*Vierteljahrsschr. für Gericht. Med.*, Cap. 1, 1857.)

THE essential particulars of this case are as follows :

CASE.—The wife of the pastor A—, of L—, æt. 30, strong, stout, and predisposed to apoplexy, felt the pains of her first accouchement in March last—the precise date is not given. The first stage of the labour was completed naturally, but with the commencement of the second stage there was a great amount of fever, with a considerable amount of mental confusion and pain in the head. In the evening the patient became unconscious, after having been first of all attacked with general convulsions—*eclampsia parturientum*. The physician, who arrived at this time, prepared himself to bleed, when the convulsions returned, and the patient died undelivered. And not only did she die undelivered, but she was allowed to remain undelivered; indeed, no examination was made, and the only statement (which is made upon the authority of the *sage femme*) is, that the head was presenting naturally shortly before death. On the following morning the corpse was arranged in the ordinary manner, and removed to the sacristy of the neighbouring church, where it was intended that it should remain until the burial, which was to be at the end of two days. After this, the corpse appears to have been left alone until the day appointed for the burial; and then, as they were arranging to place it in the coffin, a moveable body was found between the thighs, along with a considerable quantity of blood; and this body, on further examination, was found to be a dead child at full term, strong and well nourished. Indeed, there is no alternative than to suppose that this child was born in the sacristy at least twenty-four hours after the death of the mother.

ART. 141.—*On the Utero-abdominal Tourniquet.*
By Dr. W. E. HUMBLE.

(*Lancet*, Nov. 1, 1856.)

In this communication Dr. Humble says :

" My instrument consists essentially of an ordinary tourniquet as used for amputations, but enlarged and made of proportionate strength. The bandage or belt is about a yard and a half in length, and about three inches in width, and made of firm woollen texture, such as is used for saddle-girths. For the sake of portability, the screw of the tourniquet is capable of being detached and put separately into the pocket, so that the instrument is even more portable than a pair of forceps ; the tourniquet platforms and belt being put into one pocket, and the screw into the other ; or, if desired, they may be placed in a small case for the purpose.

" The following is the mode of using the instrument : The labour having been completed, the accoucheur discovers that hemorrhage has been going on, and that firm pressure is required to control it. He immediately applies the belt round the pelvis, and buckles it tightly with the pad and tourniquet over the region of the uterus. Probably this may suffice, but if he finds that the pressure exerted is not sufficient, he turns the screw, and tightens the instrument to any extent he may desire. All this is done almost as readily and easily as it can be described ; and during the time that would have been occupied in getting his bandages prepared, his napkins folded, and other arrangements made, (besides the difficulty of applying bandages under the circumstances,) he has placed his patient in a state of safety, without the slightest trouble or causing the least confusion. Should the severity of the case require the use of the plug also, a ribbon attached to the instrument in front, carried between the thighs, and pinned to the belt behind, will suffice admirably to retain the plug. It is well to remark that, to prevent the abdomen being pinched, and to adapt the pressure better, the belt should encircle the body from the *upper* platform of the instrument.

" The instrument, which I call 'Utero-Abdominal Tourniquet,' has been made, under my directions, by Mr. Bigg, of St. Thomas's-street. I feel that I can state confidently that it is as necessary and useful in post-partum haemorrhage as the ordinary tourniquet in amputations."

ART. 142.—*On Puerperal Fever.* By Dr. MURPHY, Professor of Midwifery in University College, London.

(*Lancet*, March 28, 1857.)

This paper is a sequel to a former paper (*vide "Abstract"* XXIII, p. 264), in which Dr. Murphy objects to the propriety of considering this disease as an inflammation of one or other of the tissues. He now points out, that neither in the mode of the attack, in the symptoms, in the post-mortem appearance, nor in the treatment, does puerperal fever agree accurately with peritonitis. A closer resemblance to phlebitis was admitted, because both were blood-diseases, but he

denied that they were identical. He then proceeds to explain his views of the nature of the disease, and shows that it is the result of a poison, and obeys strictly all the laws of morbid poisons. *Its action is definite and specific.* The seat of that action is the serous surfaces, especially the peritoneum and uterine veins, chiefly because of the rapidity of their absorption. He denies that the action itself should be considered a *specific* inflammation, although he admits that in certain cases inflammation may be excited. The term inflammation is used too extensively, being made to embrace actions perfectly opposed to each other. The design of inflammatory action is to preserve or repair organized structure, yet the term is given to actions that destroy it. Thus, cancerous inflammation, tubercular inflammation, are expressions sometimes used in such a manner as to mean that cancer and tubercle were only forms of inflammation. So, also, in the infantile lung, post-mortem appearances were described as lobar, lobular, vesicular pneumonia, which were caused by collapse of the lung. The tendency of a poison is to destroy organization ; it is incorrect, therefore, to consider its action as a *specific* form of inflammation, which, whenever it takes place, is only for the purpose of limiting the action of the poison : and in this sense, just as the deposition of tubercle on the peritoneum is accompanied by peritonitis, so the puerperal poison may excite peritonitis ; but the more powerful the poison, the less peritonitis ; and the weaker its influence, the more distinctly are the evidences of inflammation observed. The action of the puerperal poison is on the blood ; the quantity of fibrine is increased ; the quality deteriorated ; a profuse exudation of morbid fibrine takes place having none of the properties of healthy fibrine, it is not organizable ; dissolves into a creamy substance, which melts into a fluid like pus, and, mixing with serum, forms the abundant "lactescent fluid" of authors. Exudations are not found in the veins, because they are not adhesive, but dissolved fibrine, like pus, is found abundantly. The puerperal poison seems a contrast to the typhus poison, which destroys fibrine, yet the typhus poison, absorbed by a parturient patient, will cause puerperal, not typhus, fever. It is the same with erysipelas. *The action of the poison is modified by the dose, as well as by the temperament and constitution of the patient.* Puerperal fever does not attack all indifferently, but selects its victims. The most important feature of this law is the manner in which the characters of the disease are modified by the quantity of the poison absorbed. When it is in excess, the patient may die without any other symptoms than a fluttering pulse and cold, livid surface. On the other hand, the dose may be so small, that true inflammation is set up to arrest it, and thus peritonitis, phlebitis, or arthritis take place. Hence the contradictions amongst authors, those who meet the latter class of cases calling the disease peritonitis, &c., while those who witness the former stand aghast at symptoms which no theory of inflammation can explain. The co-existence of hooping-cough and measles, of syphilis with erysipelas, proves that two morbid poisons may each set up their specific actions in the same person at the same time. Erysipelas and puerperal fever have occurred in the same patient ; but the author has generally found erysipelas to precede

or follow puerperal fever rather than accompany it. Erysipelas excited puerperal fever; but when the latter was at its height, the former disappeared. The author objects to the opinion that erysipelas and puerperal fever are identical, and does not consider those cases described by Gooch, in which the peritoneum was pale and colourless, as puerperal fever at all. They might be instances of erysipelas, if this poison ever attacks serous membranes. The author considered the poison as a contagion just like the cadaveric poison, which seems so similar to it; and he briefly enumerates the symptoms of the disease to explain the principle which should guide us in the treatment. According to its strength, the constitution makes an effort to get rid of the poison, whether by vomiting or by purging, by the skin, or by the kidneys. The observation of these efforts led Donat to use emetics; Boér, kermes mineral; Denman, tartar emetic; and Armstrong, salts and senna. If the effort fail, the poisoned blood accumulates at the centres of the circulation, which are relieved by a prompt and bold depletion; for such a purpose, thirty, forty, even fifty, ounces of blood have been taken with decided benefit; but depletion should instantly follow the rigor, because if time is lost, the very same treatment may only hasten dissolution. Camphor and turpentine have been recommended in the treatment of this fever. These remedies are not only stimulant but anaesthetic, and are useful not alone in supporting the constitution against the attack, but by diminishing pain, they lessen nervous exhaustion. Reasoning on these facts, the author has tried chloric ether with great advantage, and recommended it strongly to the consideration of the profession. General rules cannot be laid down for treatment. If the dose of the poison be a maximum, nothing will save the patient: if in such quantity that the constitution can make some effort to get rid of it, much of our success will depend upon a close observation of the manner in which the effort is made. Prompt depletion has saved many a patient. The judicious use of emetics, purgatives, diaphoretics, and even diuretics, has averted the attack by aiding a natural effort. If the dose of the poison be a minimum, then peritonitis, or phlebitis, become prominent, and must be treated as such. Thus what are called the inflammatory and ataxic forms of this disease, merely signify the degrees in the dose of this poison. The author alluded to the importance of prophylactic agents, to *ventilation* and the improvements lately introduced, to chlorine as a means of destroying the poison, and to anaesthetic agents as a means of blunting the sensibilities of the nervous system and diminishing the activity of absorption. In this sense he considers chloroform extremely valuable; and so far from fearing its influence in causing puerperal fever, he looked upon it as a preventive.

ART. 143.—*On the employment of Electricity in suppression of Milk.*
By M. BEQUEREL.

(*Gaz. Hebdom. de Méd. et Chir.*, Jan. 16, 1857.)

This case was related at a recent meeting of the Medical Society connected with the Parisian Hospitals.

CASE.—The patient was a young woman, æt. 27, of a somewhat nervous temperament, who had suckled her child for six months without any lack of milk. At the end of this time her milk failed, in consequence of circumstances which were calculated to excite and agitate her very greatly, and there was no supply for about a week. Then it was that M. Becquerel determined to try the electricity, with a view to restoring, if possible, the wanting secretion, for the child was wasting rapidly, and the mother would not consent to the employment of a nurse. In order to this, the apparatus of Gaeffe and Loiseau was used, and the current (it is not stated whether this was interrupted or continuous) was passed in various directions through the substance of the breast, by means of moistened sponges applied to the ends of the wires. Three sittings of a quarter of an hour each were used, and the strength of the current was regulated so as to cause not more than a feeling of malaise. In the first sitting, the rush of milk came almost instantly after the application of the electrodes, and after the third sitting the supply was abundant.

ART. 144.—*On the use of Belladonna in arresting the secretion of Milk.* By Mr. BURROWS, of Liverpool.

(*British Med. Journal*, March 28, 1857.)

Mr. Burrows' case is another proof of the peculiar power of belladonna in arresting the secretion of milk.

CASE.—Mrs. R—, æt. 26, commenced the weaning of her second child on March 10th, 1857. On March 11th, I saw her. She complained of great pain of the left breast, which was inflamed, much distended, and very hard. She directed my attention particularly to a wide, callous, and painful prominence, that resembled a thick convex belt, which stretched from the mamma to the clavicle. I prescribed the diluted extract of belladonna, and directed it to be applied as in the former case. I saw her again on the following day. She said her breast continued distended and painful. I then had a momentary doubt of the efficacy of my remedy. No sooner had the thought crossed my mind than she said, "I washed off your salve, and put on sticking plaster, at the recommendation of a female friend of considerable experience." I spoke to her of the impropriety of calling in a medical man, if she would not follow his advice. She felt the remark, and replied, "I will take off the plaster, and apply your preparation." I urged her to do so without delay. Having lost some valuable time, I deemed it necessary to combine with the application of the extract the administration of the purgative mixture, with the wine of colchicum. Had there been no delay, I intended to test the antilactific power of the remedy alone, without the combined influence of any other. Time having been lost, I was afraid of trusting to it, lest suppuration should ensue.

On March 13th, I visited her. She met me with a smile, and exclaimed, "My breast is better; the pain is gone, and the fulness reduced." She continued the application till the following morning, when the breast was cool, pale, and flaccid, and the elevated hardened integument, that stretched from the breast to the clavicle, diminished in size, softer to the touch, and free from pain. The secretion of milk is arrested, there being no spontaneous dribbling from the nipple, nor can any milk be squeezed out of the breast.

ART. 145.—*On the Asphyxia of New-born Children and its treatment.*
By Dr. MARSHALL HALL.

(*Medical Times and Gazette*, Dec. 13, 1856.)

“ The newly born infant and the newly born of many of the mammalia are in a peculiar condition, both in an anatomical and physiological point of view. The foramen ovale and the ductus arteriosus, being still open, the blood of the pulmonary circulation is still diverted from the channels it is destined to pursue, and in this respect it resembles the reptile tribes. Respiration and every stimulus, except temperature, being absent, the excitability of the spinal system, and the irritability of the muscular system, exist in their highest condition, according to a law of animal life which I announced some years ago, viz., that these faculties are, throughout the animal kingdom, inversely as the stimuli. The new-born foetus is, therefore, a creature of high excitability and irritability. But such an animal bears the absence of stimuli precisely in the same ratio. Respiration is the chief of these stimuli; therefore, to arrive at the subject of this paper, the new-born foetus can long survive the absence of respiration. The condition of apnœa and of asphyxia, without the absolute loss of life, is therefore of long duration, and the hope of restoring the still-born infant is long protracted; so must, therefore, our efforts at resuscitation be.

“ These efforts consist—

“ 1st. In measures to induce efficient respiration; and

“ 2dly. In measures to maintain the circulation.

“ In order that respiration may be effected, we must adopt the following means:

“ 1. The infant must be placed in the prone position, in order that all fluids, which might obstruct the entrance into the windpipe, may flow away.

“ 2. Nature’s mode of operation being to impress the trifacial and cutaneous nerves, the external excitors of respiration, by the external cold, we must dash a few drops of cold water on the face and the general surface.

“ 3. We must proceed, having failed to excite respiration, to imitate the respiratory movements:

“ This must not be done by any forcing means; even the human breath, forced into the infant’s lips, may tear the delicate tissue of the foetal lungs. We must, on the contrary, adopt some measure of drawing the air into the lungs. This is effectually accomplished by first placing the little patient briskly in the prone position, to clear the fauces; then pressing gently on the back; and then removing that pressure, and turning it gently on the side and a little beyond.

“ 4. Meantime, the limbs are to be rubbed, with gentle pressure, upwards, to promote the circulation, by propelling the venous blood towards the heart.

“ 5. At proper intervals we must again endeavour to excite the respiration physiologically.

"The infant is to be placed with the face prone, and doused alternately and rapidly with water of the temperatures of 60° and 100° Fahr. High and low temperatures are equally excitants of the reflex function of respiration, and their power, within physiological limits, is in proportion to the difference of those temperatures. We must remember that the newly-born infant is a creature of high irritability and low stimulus, and that the foramen ovale and ductus arteriosus are open—both events greatly calculated to protract life and hope in the case of apnæa; and we must long, very long persevere in our efforts to save the still-born. The still-born infant has been restored after it has been neglected for hours. There is a remaining consideration. The effect of apnæa is a condition of the blood surcharged with and poisoned by carbonic acid; from this condition of the blood a secondary asphyxia and convulsions are apt to occur in the adult. I do not know whether this be the case with the newly born infant.

"The remedy and preventive of such secondary asphyxia would be free exposure to the breeze, with the inhalation of very dilute pure ammonia.

"The treatment of the still-born infant may finally be thus briefly resumed in the form of rules:

- "1. Place the fœtus on the face.
- "2. Sprinkle the general surface briskly with cold water.
- "3. Make gentle pressure on the back; remove it, and turn the infant on the side; and again place it prone with pressure.
- "4. Rub the limbs, with gentle pressure, upwards.
- "5. Repeat the sprinkling only now, with cold and hot water (of the temperatures of 60° and 100° Fahr. alternately.)
- "6. Continue these measures, or renew them, from time to time, even for hours. The embers of life may not be entirely extinct."

ART. 146.—*On the suckling and feeding of Infants.* By Dr. KÜTTNER.

(*Journ. für Kinderkr.*, Bd. 26, 1856; and *Med. Times and Gazette*, Jan. 24, 1857.)

Dr. Küttner, of Dresden, presents the following aphorisms as the fruits of his practical observation:

- 1. A knowledge of and attention to their proper nourishment is a fundamental necessity for the successful treatment of sick children. He who will cure them must before all things know how to feed them.
- 2. Articles of diet must often serve as medicine, and medicine be used in place of food.
- 3. The mother's breast is the best food for the infant; and only when an absence of milk, or the condition of the mother's health renders suckling impossible, should the substitution of a nurse receive medical sanction.
- 4. In the choice of a nurse we cannot be too careful and suspicious; but the most careful examination may prove defective unless we can ascertain the condition of her own child.

5. Nurses sometimes conceal their deficiency of milk with much cunning. The continuous, spontaneous issue of milk is by no means a sign of actual abundance, but far oftener of an atonic state of the milk-ducts and nipples.

6. When an infant does not thrive upon a breast, but is thirsty, constipated, and restless, the nurse, whatever the condition of the secretion of her milk may be, must be changed without hesitation.

7. Let the change be made at once, for all delay is injurious to the child.

8. A nurse's milk should entirely suffice for the child; but when the mother's milk does not do so, it should be made up, not by food but by other milk—it being a popular error that the two milks do not agree.

9. It is not rare to find, in nurses having apparently abundance of milk, that this undergoes on their first arrival a considerable diminution. Regret at leaving their own child and home, different mode of life, and the irritation of the gland by the suckling, are the causes of this inconvenience, which ceases if we wait quietly and encourage the woman.

10. The only test of the goodness of a nurse is the condition of the child. The state of its stools testifies to the quality of the milk, and the amount of urine to the quantity.

11. Except during the first few days, suckling every two hours is most suitable; for a too frequent and a too seldom application to the breast are alike injurious to the condition of the milk. For the sake of rest, a pause of five or six hours should be secured at night.

12. The appearance of the menses while suckling, if not accompanied by an abiding diminution of the milk, is not hurtful to the infant.

13. Suckling from a suppurating breast is not without danger both for the infant and the nurse.

14. The period for ceasing suckling, or for combining feeding with it, cannot always be determined beforehand. Neither the age of the child or the presence of a certain number of teeth can alone determine this. Of not less importance are the state of the health and development of the infant, and its longing for other food, accompanied, as this sometimes is, with a remarkable indifference to the breast itself. The time of year, the condition of the nurse, and especially of the secretion of milk, have also to be taken into consideration.

15. The wide-spread opinion that cow's milk is more suitable in the spring, owing to the character of its food, is without foundation, as the milk is often then purgative; while in the autumn it often undergoes an advantageous chemical change.

16. Gradual weaning, when possible, should always be preferred.

17. When suckling is impossible, cow's milk offers the best substitute.

18. The artificial feeding of children, properly managed, does not lead to such unfavorable results as usually supposed; but it is more troublesome, and often more expensive than a nurse. Children so brought up may appear during the first six or nine months more imperfectly nourished than sucklings; but after that period they regain their size, and no difference can be detected between them.

19. It is always a great advantage for children who are to be brought up by hand, if they can be suckled during the first weeks, if even only partially.

20. We cannot lay down any absolute rules for artificial feeding, which requires adaptation to individual cases. The thriving of the child, the condition of its bowels, and its quietude or restlessness must be our guides.

21. The chemical analysis of milk shows especially that this secretion is liable to great individual quantitative and qualitative varieties, dependent upon a great variety of circumstances. Hence, the remarkable differences found in the examinations of the milk made by different chemists, and the difficulty in constructing a scale of the various kinds, according to the amount of their constituent parts.

22. Every addition to cow's milk should have for its object the rendering it more similar to human milk, and, consequently, more digestible.

23 and 24. Much importance is not to be attached to always obtaining the milk from the same cow, or to the cow being fed on dry food (hay, &c.).

25. The morning's milk is preferable, not only because it is fresher, but because it contains notably less fat and casein.

26. Warming the milk when it cannot be given just after milking is desirable; for it otherwise gives rise to flatulence, diarrhoea, or constipation, or at all events, to a most offensive smell of the evacuations, which at once disappears when the milk is given boiled. During the boiling a caseous membrane is formed, which, protecting the milk from the access of the air, causes it to keep better.

27. Skimmed milk is not suitable for infants. Cow's milk does not contain much more fat than human, and the quantity is easily diminished by dilution. Skim milk is not only too poor in fat, but it is too old; for, having stood so long to yield its cream, it has undergone certain chemical changes. As a general rule, it is an error to forbid children fat, butter, &c., in their diet, as we thus prohibit an important article of nutrition, that appears essentially to contribute to the assimilation of albumen and its modifications. Both substances are found in the maternal milk, the fat being more abundant the shorter the time that has elapsed since delivery. Fat is also an important medicinal agent in diseases such as scrofula and rickets, indicative of a defective nutritive process.

28. Cow's milk in general contains very little more solid constituents than human milk, and the dilution usually made is not theoretically justifiable; and, at all events, this should never be carried so far that the child takes only one half milk. Cow's milk is not rendered indigestible by the absolute amount of solid constituents, but either by their chemical condition or their proportions to each other being different, neither of which conditions is influenced by dilution. Not only does too great dilution deprive the child of nutriment, but it renders the milk more indigestible, for the author's experiments have shown that the more diluted the milk the more firm does its coagulum become. He has seen many children thrive well when fed from their birth upon undiluted milk, and especially when they could drink it fresh;

and if given diluted at all, not more than one fourth, or at most a third of water should be added, to be left off after some months.

29. Among all the differences between cow's and human milk, the proportion of caseum is the most important, for not only is this more abundant, but it coagulates with more difficulty. While that of human milk coagulates into a loose, flocculent jelly, the caseum of cow's milk hardens into large firm lumps, which are with difficulty soluble, easily disturb digestion, and are often found unchanged in the stools. This alone constitutes the difficulty in nourishing infants upon cow's milk, and it also forms the best test for ascertaining the suitable digestion of the milk. To remove this by coagulation, and feed the infants upon the whey, would be to deprive the milk of some of its most precious constituents. Our object must be to render the coagulum as little firm as possible. Dilution only renders it more so, while the addition of half a teaspoonful of *Pulv. Acaciae* to each cup of milk exerts a very good effect, the coagulum then taking on the appearance of a loose jelly. Such milk is well borne, and the undigested lumps of caseum are no longer found in the better-coloured stools.

30. Human milk is sweeter, and the addition of sugar to cow's milk is the more required the more diluted this is used. Sugar of milk is most to be preferred, although it sweetens less. Its sweetening power is, however, increased by the addition of a minute quantity of salt.

31. Addition of salts to cow's milk is unnecessary, as these are already more abundant than in human milk. In order to prevent acidification of the milk, and especially in summer, it is desirable to add a little chalk before boiling the milk, or, in the case of constipation, magnesia. Cow's milk requires as little assistance from other articles of diet as does the human milk. When the development of the child is sufficiently advanced, and especially if several teeth have appeared, vegetable nutriment may be added, as biscuit, or roll, and, later, gruel. These substances should be well soaked in water or weak broth, and a little salt, not sugar, added as a condiment.

33. If the sucking infant is the subject of diarrhoea, we must not all at once alter its food, but rather change the diet of the nurse, or if necessary employ another. When the employment of cow's milk with farinaceous or gummy substances cannot be borne, and an exhausting diarrhoea continues, we should substitute raw yolk of egg in a decoction of grits.

(B) CONCERNING DISEASES OF WOMEN.

ART. 147.—*On the age in which Hysterical Affections are most liable to be developed.* By Dr. BRIQUET.

(*L'Union Médicale*, Sept. 4, and 20, 1856; and *Medico-Chir. Review*, April, 1857.)

Dr. Briquet passes in review the doctrines taught by various writers on the subject of the occurrence of hysteria, and then analyses a series

of 467 cases occurring in his own practice in the course of ten years, in which the commencement of the affection was carefully noted. Some of his inferences would probably not be universally adopted, but his numbers are important, the more so as they are in the main corroborated by the analysis of numerous cases collected by Dr. Landouzy, whose results are also given in the following table:

From birth to 10 years	...	Landouzy.	Briquet.
0 cases	...	61 cases.	
" 10 "	15 "	48 "	104 "
" 15 "	20 "	105 "	162 "
" 20 "	25 "	80 "	73 "
" 25 "	30 "	40 "	28 "
" 30 "	35 "	38 "	13 "
" 35 "	40 "	15 "	12 "
" 40 "	45 "	7 "	3 "
" 45 "	50 "	8 "	1 "
" 50 "	55 "	4 "	2 "
" 55 "	60 "	4 "	1 "

Dr. Briquet attributes the differences that are manifest between his table and the numbers given by Dr. Landouzy to the circumstance of his having exercised great care in determining the exact commencement of the disease. The following are his chief conclusions:

1. A considerable number of cases of hysteria occur while the sexual organs are yet in a rudimentary state.

2. The development of hysteria does not bear a direct ratio to the period of activity of the sexual organs, as this period commences at eleven or twelve years, and does not cease till the fortieth or forty-fifth year. On the other hand, hysteria progressively advances up to the age of twenty, and very rapidly diminishes from the twentieth to the forty-fifth year. Consequently, of thirty-four years of sexual activity, there are only from nine to ten during which hysteria prevails, while it becomes less frequent during the remaining twenty-four; and yet the sexual activity is greater from twenty to forty-five years of age.

ART. 148.—*On Sterility.* By Mr. J. BAKER BROWN, Surgeon-Accoucheur to St. Mary's Hospital.

(*Lancet*, Feb. 28, 1857.)

The chief point in this paper is the treatment of dysmenorrhœa when it mechanically was a cause of sterility. The author says it is a derangement which might be either mechanical or spasmodic, and numerous expedients had been resorted to for its cure, such as catheterism, caustics, cutting, sponge-tents, and similar mechanical contrivances, the object being to overcome stricture of the os and cervix uteri. Mr. Brown states that he could adduce several instances where the protracted use of the metallic bougie, or of ordinary elastic bougies, had been successful. He then calls attention to a set of instruments, which he had contrived, to dilate the os and cervix uteri where this

operation was called for. He has made use of the suggestions of Mr. Thomas Wakley, who had devised and carried out a tubular system as applied to stricture of the urethra with remarkable success. In his (Mr. Brown's) instruments he has a sort of long stilette, which he introduces into the os uteri, through the speculum, as in the ordinary mode of passing Simpson's uterine sound, and then over that he passes the smallest-sized elastic tube, and allows it to remain for a longer or shorter period, according to the pain produced. It would be found that cases which presented almost insuperable difficulties in their dilatation readily yielded under this simple contrivance, and without producing any bleeding or laceration, the not unfrequent results of ordinary dilatation. The most advantageous period for the introduction of the instrument was immediately after the secession of the catamenia, before contraction of the canal had taken place and it had returned to its usual size. Mr. Brown then remarks that he wished to observe here that he has never seen the necessity for the introduction of caustics into the cervix for the purpose of dilatation; and he thinks that no one who had studied the delicate structure of the lining membrane of the uterine cervical canal, and who recollects the necessity for its expansion and contraction at each menstrual epoch, would ever be induced to destroy any portion of it by such means. He had had many cases come under his notice where partial occlusion of the os and cervix had been the result of their use, and he felt quite certain that the employment of such agents was a more frequent cause of sterility than was generally supposed. Mr. Brown then proposes to speak of a series of causes of sterility which had not been previously recognised, and which he classed under diseases of the rectum. He would first recall to the minds of his readers the general law of the animal economy—That any irregularity or interference with the functional action of any one part of the body affects more or less the whole body. If this law pertained to the body generally, how much more must it pertain to the female organs of generation, where the slightest deviation from normal functional action must materially interfere with the delicate physiological process of impregnation and the contiguous organs. It must be borne in mind that both the rectum and uterus are supplied with blood from the internal iliac artery, and with nervous influence from the sacral plexus; and that therefore disease or functional derangement in the one part or organ must interfere with the other. Mr. Brown illustrates it in the following manner: A female is suffering from bleeding haemorrhoids. At the menstrual period there is an increased supply to the haemorrhoidal vessels, and consequently a diminished supply to the uterus, because Nature only sends down a sufficient supply for the uterine function. The same observations apply to prolapsus ani, where there was always some loss of blood at every time of defecation, and a greater loss at the period of the menstrual epoch. If a patient was suffering from fistula or fissure, there was constantly more or less pain in the uterus, as a result of reflex action, and consequently it was always under a state of irritation, which rendered it unfit for the quiet and perfect performance of its duties. Indeed, he (Mr. Brown) has seen many cases, which he would mention on a future occasion,

of patients having been treated for months and years for uterine inflammation, with leeches, caustics, &c., where he had discovered a long-standing fissure of the bowel, which had been the sole-exciting cause of the uterine affection. Mr. Brown then adds, that the observations might probably be deemed wanting in value and importance; but he is convinced that if he was successful in arousing the attention of medical men to the causes and treatment of sterility in the female, some credit would be given him for the attempt to rescue the subject from neglect and from the clutches of quacks, and for the views he had laid down of the effects of causes which act apparently by sympathy with and contiguity to the reproductive organs. On his part, the subject would continue to receive his best consideration; and he hopes to be enabled to present his opinions and practice more at large in a work dedicated to the profession.

ART. 149.—*On Infra-mammary Pains.* By Dr. SIMPSON, Professor of Midwifery in the University of Edinburgh.

(*Edinburgh Medical Journal*, April, 1857.)

A local limited pain under the left mamma, more rarely under the right, is a species of suffering which is not unfrequently seen in the female sex, and it has been alluded to and described by various authors. Usually the seat of the pain is limited to a part not more extensive than a crown piece. Sometimes it spreads further, and circularly around the side. It is apparently seated in the soft parts covering the ribs, and principally in the integumental coverings. Often it co-exists with uterine disease. Sometimes it persists for weeks, months, and years, occasionally recurring in fits, more generally of a chronic, and more permanent nature. Many means have been suggested for its relief and treatment; as cupping and counter-irritating the corresponding portion of the vertebral column; applying leeches, blisters, sedatives, &c., to the affected part. Latterly, in a considerable number of instances, Dr. Simpson has injected the subcutaneous tissue at the pained part with ten or twenty drops of the common solution of the muriate of morphia, or with a watery solution of the bimecomate of morphia, of the same strength, according to the plan ingeniously suggested by Dr. Alexander Wood for the cure of neuralgia, and the results have been in most cases successful beyond his previous hopes. He has seen the pain at once disappear in a number of instances in which it had previously persisted for various lengths of time. In most a single morphia injection has sufficed; in some it required to be repeated twice or oftener. The instances which have not yielded to this treatment have been relatively very few in number, compared to those in which it has succeeded; and the measure is so simple and so generally effectual as to deserve the attention of all practitioners.

ART. 150.—*A case of Cancer of the Mamma removed by a painless method.* By Mr. BARWELL, Assistant-Surgeon to the Charing-Cross Hospital.

(*Lancet*, March 14, 1857.)

There are, besides the many mineral escharotics, several belonging to the vegetable kingdom, which have the advantage of painlessness. Moreover, they hardly act on any but fungoid or lowly organized growths. Such are, for example, oak-bark, the sanguinaria canadensis, &c. In this case tannic acid was used.

CASE.—M. H—, æt. 62, came to Mr. Canton, at the Charing-cross Hospital, with a tumour in the right breast, on the 5th of January, 1857. She has borne and suckled seven children, suffered eight miscarriages, and ceased menstruating at fifty. For some years past has been troubled with business difficulties; but about Christmas, 1854, more important family troubles deprived her of sleep and appetite; she lost flesh, and has since remained thin. In February, 1856; that is, fourteen months after the commencement of these more serious anxieties, she found by accident a hard lump, about the size of a marble, in the right breast. Up to last November this tumour remained passive, but at that time began to increase rapidly, and to give rise to sharp, darting pains. Mr. Canton seeing her on the 5th, pronounced the tumour scirrhus, and, knowing me interested in such, was kind enough to order her to return in a week, that I might have an opportunity of seeing the case. On the 12th January I saw her with Mr. Canton. She is rather tall and spare, with a worn look, slightly yellow tinge of complexion. The tumour, as large as a full-grown English walnut, was at the inner side of the breast, and a little below the level of the nipple. It was of stony hardness, without claw-like prolongations, smooth on the surface, and movable amongst the tissues. The skin was adherent over a space rather larger than a sixpence, and in the centre of this space was a small dry scab, which, when removed, showed an ulcer, around which the skin was just beginning to wrinkle. Mr. Canton removed this tumour, together with a good deal of surrounding tissue. The wound bled considerably. Various styptics were used, and in about six hours the bleeding was arrested.

I took the tumour home with me for further examination. On cutting it in halves, it creaked under the knife, showed a pearly surface, with fibrous appearance. On pressure there oozed forth a white homogeneous juice, which emulsified perfectly in water. A piece of tumour showed, under a magnifying power of three hundred diameters, fibrous matter in considerable quantities, and a large number of nucleated, binucleated, and nucleolated cells, with thin walls and irregular outline. Running round the tumour, in its substance, was a thin red vascular line, lost in the little ulcerated spot above mentioned. This appeared to me the first step towards softening.

January 19th.—The wound has been going on well; but to-day it has assumed a somewhat suspicious appearance.

27th.—Mr. Canton was good enough to offer the future management of the case to me. I noted the following general and local appearances:—The skin had assumed a duller and yellower hue; the conjunctiva was of an ashen-green colour; the patient had a worn look; was dark under the eyes; had little appetite. There was a hard tumour, which partly enclosed the outer angle of the wound, and extended two inches beyond it, the growth measuring laterally nearly three inches; from top to bottom an inch and a

half; the end of the wound cuts an angular slice out of this tumour, the cavity being lined with ragged tissue, some of which I clipped off, and, under the microscope, found it to consist of soft fibrinous matter, mixed with some such cells as above described, but chiefly with free and clustered nuclei with nucleoli. I applied, by means of a sable brush, a solution of tannic acid —one ounce of acid to half an ounce of water; and ordered her to take fifteen minims of the chlorinated soda solution, in water, three times a day.

On the following morning there was a thick white slough, which could be partially separated, so as again to allow of a free application of the acid. This escharotic was applied daily; it caused no pain; indeed, a throbbing, darting pain, which she had complained of at first, was soon greatly lessened; portions of slough separated occasionally from the mass, and were removed; and on the 10th of February, the whole dead tumour came away, leaving a pure granulating concave surface. Thus, in fourteen days, the diseased mass had been removed by a painless process. There remained of course a cavity to be filled up; but this was not large, because this application draws the sound parts so close round the slough, that they push it out further and further, so that the hollow is not as big as the tumour, which was removed from it.

On the 28th of February, the wound had healed, without any induration; and the patient left the hospital greatly improved in health, with a clear complexion, and without that peculiar dull ashen colour of the conjunctiva.

ART. 151.—*On Iodine Injections in Uterine Hæmorrhages.*

By M. DUPERRIS, of Havana, Cuba.

(*North American Med.-Chir. Review*, Jan., 1857.)

“A patient applies,” says M. Dupierris, “labouring under chronic uterine hæmorrhage, no matter how caused, whether by an organic affection or a functional derangement. I place her under the following treatment: The woman is put upon an inclined plane, prepared across the bed by means of the back of a chair turned upside down and covered with pillows. The feet are placed on chairs, and the patient is seated on the edge of the bed, or rather on a pillow, which terminates the inclined plane. After having covered her with a sheet from the breast down, I direct her to raise up her clothes, so as to remain covered by the sheet alone. I then grease the trivalve speculum (a modification of Charrière’s), and introduce it in the ordinary manner. Then I surround the instrument at its base with the edge of the sheet, which is crossed underneath, and tucked under the seat of the patient. I give the handles of the instrument to the patient herself to hold. By means of a candle I examine the state of the os uteri. The latter, which is situated in the middle of the instrument, is cleaned of the mucus which generally adheres to it. It then presents its orifice ready to admit the end of the syphon or the syringe. An instrument of this kind large enough to contain about an ounce and a half of fluid is selected for this operation. I have affixed to it a silver probe about five inches long; the end of the probe is a little enlarged, like that which is used to cauterize the Eustachian tube. The syringe is filled with a mixture of tincture of iodine and water,

in the proportion of one third of the former to two thirds of the latter. The end of the syphon is pushed up, as far as possible, into the cavity of the uterus, and the injection administered with some degree of force. The liquid comes out of the cavity of the uterus as fast as introduced, and is soon all expelled. The uterus is ascertained to have contracted from the circumstance that mucus is very often attached to the end of the instrument in the form of a rather large ball. The woman experiences occasionally a sensation of heat, and sometimes a slight pain at the hypogastric region. The injection is repeated, if necessary, at the end of three or four days. The next day the haemorrhage is found to have lessened; it diminishes the following day, and generally disappears on the third.

"I have resorted to this method of treatment more than a hundred times, and found but one case to resist it. This patient was an old lady, who had had uterine haemorrhage for many years."

ART. 152.—*On blistering the Cervix Uteri in certain uterine diseases.*

By Dr. JOHNS, Ex-Assistant to the Dublin Lying-in Hospital, &c.

(*Dublin Quarterly Journal of Med. Science, May, 1857.*)

"As it is familiarly known that leeches, when applied directly to the cervix uteri in inflammatory and other affections of that and neighbouring organs, act far more beneficially than when employed externally, and at a greater distance from the seat of the disease (as first enjoined by M. Guibert),—so, as blisters, when used externally, act sometimes salutarily in the cases now under consideration, may we not reasonably expect that their direct application to the offending viscous will be still more likely to be productive of good. Actuated by this, as well as other reasons, I have made trial of their efficacy, and I have not been disappointed in my expectations.

"The plan I adopt for blistering the cervix uteri is as follows: The parts are first brought into view by means of a speculum; I generally use Ferguson's, but with moderate care any other will answer as well. They are then to be well freed from any mucous or other discharge, by a dry, soft sponge; sometimes the mucus is so adherent, particularly when exuding from the os, that it is necessary to damp the sponge for its removal; in all cases, however, the parts must be well dried; after which a concentrated solution of cantharides in sulphuric ether, mixed with the ordinary solution of gutta percha in chloroform, in the proportion of two parts of the former solution to one of the latter, is to be rapidly rubbed on the cervix by means of a camel's-hair pencil two or three times, according to the effect produced, as indicated by the appearance of the part, or by the sensations of the patient.

"My first essay was with vesicating collodion, but as it caused great pain, both during its application and for hours afterwards, only ceasing on the appearing of the watery discharge, and as its operation was not sufficiently expeditious or efficacious, I had a strong solution of cantharides in chloroform, in which gutta percha was afterwards dissolved prepared for me by Mr. Walsh, of Westland-row, which had the

advantage of being painless during and after its use ; but it was not so speedy in its action, nor so powerful in its effects as the collodion. Therefore, after consulting with several chemists in the city, I eventually applied to Mr. Williams (Dr. Butler's chemist), who, after having made several experiments, kindly presented me with a specimen of the preparation which I now use, and offer to the profession as being fully adequate to fulfil the indications required. It is frequently of advantage to keep open the blistered surface, and this is satisfactorily done by the weaker preparation in chloroform, which I denominate vesicating gutta percha, No. 2, the ordinary one (vesicating gutta purcha No. 1 being rarely required for that purpose.) For some days after the operation I direct vaginal injections of cold water to be used, and sometimes I wash over the parts with a weak preparation of nitrate of silver. At first I was in the habit of keeping open the blisters by some strong caustic, but I very soon learned that the weaker solution of cantharides answered the purpose better.

" During the appliance of this remedy the patient experiences a pricking, stinging pain, together with a sensation of heat, sometimes amounting to burning—it is very bearable, and ceases almost immediately ; indeed, in some cases she will not tell you of it unless you ask her ; in others a sweet, pungent taste and smell are experienced, or an ethereal odour is perceived on her breath by another. Very frequently, in fact generally, small vesications appear at the time, and a watery discharge sets in within half an hour afterwards (which has a scalding sensation whilst passing), sometimes even before the speculum has been withdrawn. This discharge, starching the linen, and in other respects similar to that from blisters externally formed, lasts commonly for three days, when to it succeeds one of a slightly purulent nature, but not productive of pain. At this stage we shall find the epithelium thickened and raised, and coming off in patches, like bits of chewed paper ; but, prior to it, vesications, like to those on the skin, are very plainly visible with their exudation. On more than one occasion I have seen a watery discharge produced by preparation No. 2, from a surface previously blistered, used to keep it open ; and the same phenomenon has occurred on an ulcerated surface.

" Blistering the cervix uteri does not cause any unpleasant sensations towards the rectum, bladder, or neighbouring organs. I never saw strangury or such like affection thereby induced ; on the contrary, I have employed it more than once when vesical irritation was present, which, so far from being increased, was completely removed by two applications.

" The average length of time for repeating this treatment is about six days, unless it be desirable to keep up the process ; then, in that case, it would be about three days."

Dr. Johns then relates twenty-four cases in illustration of this mode of treatment, and after alluding to M. Arans's experience on the same subject, he draws these deductions from his own experience :

1. That minor idiopathic affections of the uterus and ovaria are curable by blistering the cervix uteri.
2. That symptomatic and sympathetic pains at the decline of uterine

and ovarian diseases, and after the cure of those affections, are removable thereby.

3. That ulceration of the cervix uteri sometimes quickly cicatrizes under this treatment.

4. That the phenomena attendant and consequent on blistering the cervix uteri are similar to those produced on other parts of the body.

5. That it is an operation completely devoid of danger, and that it does not cause any unpleasant symptom towards the rectum, uterus, or other neighbouring organs.

6. That irritation of the bladder is not necessarily a barrier to blistering the cervix uteri, as this unpleasant symptom is sometimes removed by it.

7. That enlargement of the cervix or body of the uterus from engorgement, or hypertrophy, is not removable by blistering the cervix alone, but that it acts well sometimes in such cases as an adjuvant to other treatment.

8. That the best and most speedy way of blistering the cervix uteri is by a strong solution of cantharides, well and quickly rubbed in with a camel's-hair pencil.

9. That the combination of some sedative or anodyne with the blistering fluid is essential to prevent pain.

10. That chloroform, with gutta percha, is preferable to any other medicament for combining with the blistering fluid, as in the first instance it increases its vesicating powers, and afterwards relieves and removes the pain thereby induced.

ART. 153.—*A remarkable form of Prolapse of the Pelvic Viscera.* By Dr. MONGOMERY, late Professor of Midwifery in the School of Physic in Ireland.

(*Dublin Hospital Gazette*, March 15, 1857.)

"About ten years ago," says Dr. Montgomery, "I was requested, by an eminent surgeon, to visit with him a lady of high hysterical temperament, and otherwise in miserably delicate health; into all the particulars of which I need not now enter, but confine myself to one fact connected with her case, which was very extraordinary, and without parallel within my observation or reading. It was stated to me that she was subject to prolapse of the rectum, to an unusual degree, and without any discoverable accompanying disease of the bowel; that the uterus descended at the same time; and that she could, at any time, by a voluntary effort, produce the displacement of both parts.

"This I found to be the fact; and, while I stood by the bed-side, the lady, at my request, caused the descent to take place, while I carefully examined what occurred; and, to my astonishment, I found that the first step in the process was the descent of the uterus against the posterior wall of the vagina, which it carried before it into the rectum, into which it was received, until completely invaginated therein, and then expelled through the anus, surrounded, of course,

by the displaced posterior wall of the vagina and the anterior wall of the rectum.

"I cannot say what became of the case afterwards, as I saw it only on the one occasion."

ART. 154.—*On the use and abuse of Pessaries in Prolapsus.*

By Dr. GIBSON.

(*Newcastle and Gateshead Pathol. Transactions, 1856.*)

Of all the displacements of the uterus, prolapse is unquestionably the most common. We may go further, and say, that of all the diseases of married women, prolapsus uteri is the most frequent. Nevertheless, it is only where the displacement is great that much inconvenience is felt, as a general rule; and usually the prolapsus has been in existence a considerable period before the descending uterus has advanced far. Prolapsus *vaginæ* is not a common disease, without a greater or less amount of descent of the uterus, and probably never occurs extensively without displacement of the bladder, or rectum, or both. When the uterus has descended from its position at the brim of the pelvis, the abdominal contents press upon the organ as they did before its descent, and the pressure of the abdominal muscles is rather increased than the contrary. Vaginal cystocele and vaginal rectocele are almost invariably associated with tumours, and as the vaginal prolapse increases, the cul de sac (formed by the rectum or the bladder, as the case may be) is also increased, and ultimately it becomes difficult to empty the rectum or the bladder completely. Hence it is palpable that the tendency of these displacements is from bad to worse. The facility with which the early progress of prolapsus uteri may be checked by pessaries and the like, has undoubtedly exercised a baneful influence upon the study and treatment of the disease, whilst with many practitioners the unhappy results of the indiscriminate employment of the pessary have had the effect of removing this instrument from their practice altogether; and I venture to submit that the indiscriminate use of the pessary is greatly more injurious than its disuse altogether. One bad consequence of the use of the pessary is the amount of irritation set up by its persistent pressure—irritation in the walls of the vagina, in the bladder, and in the rectum. Another is the expansion of the vagina consequent upon its continued pressure; from hence results excessive dilatation of the vaginal tube, relaxation of its coats, excoriation, leucorrhœa, &c. &c. Another effect, and often the most serious of all, is the pressure of the pessary upon the os and cervix uteri; hence the production here of inflammation, ulceration, haemorrhage, and a whole host of evils. Still it is undoubtedly true that, by careful management the pessary is a most useful instrument. I recommend a pessary which, I think, will obviate many of the objections urged against its use—light, clean, compressible, cheap—the vulcanized india-rubber ball, used as a toy by children, having a peg at the aperture and a loop for easy removal. This, with a well-adapted bandage externally, will relieve very many cases of prolapsus. An excellent pessary is made of sponge, with a

loop of tape passed through it for its easy withdrawal. It should be somewhat excavated before and behind, and may be (where small size is a great objection in introduction) dipped in a solution of gum, and compressed by tape or twine, as in the ordinary manufacture of the sponge tint. When dry, and the compressing tape or twine removed, and the surface smoothed with a sharp knife or scissors, it is duly oiled, and passed into the required position in the vagina. The medicated pessary is much neglected, and may be made to fulfil very many indications; indeed it is self-evident that the persistent application of any given medicinal agent must be vastly more influential than the brief application of such agent by way of injection, the ordinary form of application. The sponge pessary may in this wise serve a double purpose. I say nothing of recumbent posture, cold sponging, or bathing, food, air, exercise, tonics, aperients, &c., my experience in these matters differing little from that of almost all modern writers upon the subjects under consideration. My experience of the use of caustics—chiefly nitrate of silver—to the walls of the vagina is not satisfactory; in mild cases they are, for the most part, not indicated, and in the severe forms they appear to me unequal to the requirements of the cases. I have in a few cases applied solutions of iodine in chloroform, ether, &c., to the vaginal surface, but here also I have not met with any commendable success.

Everything considered then—the progressive tendency of the diseases from bad to worse—the acknowledged difficulty in their treatment, their frequency, &c.—it becomes desirable to know whether other means, beyond those ordinarily employed, are not to be found, which shall relieve or cure those forms of disease which have resisted ordinary treatment. The agency of the knife has not had fair scope, and this principally from two causes. 1. The repugnance of the patient and the practitioner to such active treatment of these delicate organs. 2. The possible destruction of these organs as agents in copulation and parturition. The first objection need not be combatted here by me; and the second is more ideal than real. It is, indeed, true that the passages have been extensively interfered with, as in the case to which I shall, in a moment, direct your particular attention. But it is also true, that in many instances well fitted for operative interference, the genital canal will admit of very extensive contraction without detriment, or with little detriment to copulation or parturition—that these objections very often do not hold, as in the aged and in the widowed—and that the distress of the disease is often so great, that copulation and parturition are entirely out of the question.

Operative interference may be, and has been, varied much by the caprice of the operator, or the requirements of the patient; but it may be stated, generally, that the aim of operators, hitherto, has been to produce contraction in some part of the genital canal. Dieffenbach removed an oval piece of mucous membrane from the side of the vagina, and brought the edges of the wound together by sutures. Baker Brown performed a somewhat similar operation, but on a smaller scale—and then, in addition, pares the edges of the labiae inferiorly, and brings the raw surfaces together. The latter part of

Baker Brown's operation has been alone performed; and all have been attended with a measure of success. I have performed two operations with the knife and ligature, for the relief of these affections. One, which has been performed by many others, consists of removing strips of mucous membrane from the sides and back of the vagina, and bringing and sustaining the edges of the wounds in contact, by means of sutures. This operation has been successful with me, but I have only performed it once.

The operation to which I desire particularly to direct attention, has not been, so far as I am aware, performed by any person except myself. The patient had suffered for sixteen years from prolapsus uteri, and for several years, from vaginal cystocele and rectocele, and had undergone treatment of various kinds, from time to time. Moreover, a fibrous-pediculated tumour, one inch and a half in length, was found attached to the posterior lip of the os uteri; this was easily removed by ligature and the bistoury. The patient was afterwards confined to the recumbent posture for a few days, and then the operation for the cure of the prolapsus was performed. The patient being placed in the ordinary position for lithotomy, and the genital canal fully exposed, an incision was carried from the medium line posteriorly (about two inches and a half above the posterior labial commissure) forward, beneath the arch of the pubis, to the margin of the labium anteriorly on each side; from these points downwards the vagina and vulva were completely denuded of mucous membrane by a careful dissection with the scalpel. This part of the operation being satisfactorily completed, three interrupted sutures brought and retained the lateral halves of the upper lines of incision together. Two other interrupted sutures were inserted into the anterior margin of the denuded surfaces, whilst three deeply-placed quill sutures kept the lateral masses firmly in contact. The patient was then removed to bed, and a mild opiate given.

The urine was regularly drawn off twice a day for the first ten days. The bowels were acted upon by enema on the third day. Considerable inflammation resulted from the operation, but ablution with warm water, injection of the vagina by means of a syringe and catheter with warm water, a rigid observance of the horizontal position, and simple food, were found equal to the requirements of the case. The first suture was removed on the seventh day, and on every second and third day from this date another suture was removed. The patient rose from her bed on or about the twenty-first day, and gradually, from this time, assumed the active duties required of her by her household. At the present hour she is quite well.

ART. 155.—*Case of Retroversion of the Uterus.*
By Dr. D. MACLEOD, of Kilmarnock.

(*Glasgow Med. Journal*, Jan., 1857.)

In this case the mother died undelivered in the tenth month of her pregnancy. Such cases are of extreme rarity.

CASE.—Mrs. M—, æt. 40, about four months advanced in her third preg-

nancy, was seized on the evening of the 25th July, 1855, shortly after lifting a heavy weight, with acute pain in the hypogastric region, accompanied by bearing down and a feeling of distension, in a situation at the lower part of the back, corresponding to the hollow of the sacrum.

Frequent fruitless attempts at micturition soon followed the above symptoms, for the relief of which the introduction of the catheter was had recourse to, which was continued by the medical gentleman who at this time attended her, for about three weeks, and by a midwife, tutored to the use of the instrument, for three weeks longer. By this time she regained the power of urinating voluntarily. The pain in the lower part of belly, already referred to, was temporarily relieved by the application of a number of leeches, and difficulty at defecation by laxative medicines.

The cause of her illness, however, remaining yet undiscovered, she became gradually worse. Anorexia, nausea, and vomiting, flatulence and feebleness of pulse, supervened. From these constitutional symptoms she continued to complain for upwards of five weeks, at the end of which time she experienced a partial mitigation of her sufferings.

About the beginning of October she had two profuse attacks of uterine haemorrhage, after which she became much emaciated, and greatly reduced in strength. From the sudden diminution of the size of the abdomen after the first discharge of blood, it was supposed the liquor amnii had also escaped. This supposition, on inspection after death, was found to have been correct, for the uterus contained but very little fluid.

On the 15th of October she was taken ill with the pains of labour. Dr. Young, who now saw the patient for the first time, found, on examination *per vaginam*, the canal of that passage much shortened, and taking a curved direction forwards and upwards. The finger, on its introduction, came in contact with a firm, but slightly elastic globular tumour, which felt about the size of a foetal head at the seventh month, and occupied the hollow of the sacrum fully. This globular tumour was found, on further examination, to be the foetal head, not felt, however, through the os uteri, as usual, but through a thin membranous partition, evidently the posterior wall of the vagina, which was reflected over it. The application of the stethoscope, to the abdomen at this time, confirmed the suspicions of the mother—already a few days existing—as to the death of the infant.

Dr. Borland, who at this time visited the patient, in consultation with Dr. Young, found the displaced os uteri situated about an inch above and behind the symphysis pubis, a little to the left of the mesial line, and open to an extent that would hardly admit the tip of the index finger. It was reached with the greatest difficulty.

The nature of the case being now clearly understood, the usual means for rectifying the position of the uterus were resorted to, but failed. Every attempt at elevating the fundus, *per rectum*, created so much agony, that that method had to be relinquished, after few steady trials.

The pains continued for about twenty-four hours. At the end of that time they ceased, and although recurring, of normal frequency and strength, during that period, produced no dilating effect on the os uteri. The different unsuccessful attempts at replacing the uterus exhausted the patient so much, that the propriety of any further interference was precluded.

Under these circumstances, it was deemed the most prudent plan to improve her general condition, in the hope that she would be better able to bear any future attempts at reposition. With this object in view, nourishing diet, quinine, and wine, were prescribed, with occasional opiates, to check diarrhoea, which by this time assailed her.

This mode of treatment was coincided in by Professor Pagan, of Glasgow, who, a few days after, was consulted by letter regarding the case.

Her condition was but slightly improved, when she was again seized with labour on the 30th December following. Reposition was several times unsuccessfully attempted, in various positions of the body, by the two forefingers of the left hand introduced into the rectum, and pulling down the os uteri by a blunt hook inserted into it, which was made for the purpose. The patient felt so weak before and after the efforts made at reposition, that she could not be safely put under the influence of chloroform. Consequently, the whole hand, as recommended by some authors, was not introduced into the rectum.*

Her pulse became now more feeble and quick—150 per minute—and she perspired profusely. Diarrhoea, which, a short time before this, afflicted her, continued till she died, undelivered, on the 3rd of January, 1856.

The followed are the morbid appearances found on examination of the body twenty-four hours after death:—

On laying open the abdominal cavity, the omentum was found completely absorbed. The anterior wall of the uterus was adhering to the parietes of the abdomen. Laterally, it was attached to the iliac passage; superiorly, it was adherent to the central portion of the transverse arch of the colon. At this central point of attachment, the intestine was slightly ruptured. It (the opening) would barely admit the point of an ordinarily-sized goosequill.

No extraversion of the contents of the bowel, that could be detected, took place by this opening. Posteriorly, the fundus was firmly bound down to the rectum and hollow of the sacrum by old adhesions. The os uteri was found undilated, in the exact position previously described. The uterus was very thin, and presented a slate-grey appearance. On being opened, it was found to contain the remains of a foetus—about the size of one at five months—placenta and membranes, along with a small quantity of putrid liquor amnii. The whole of the uterine contents had undergone decomposition to a very great extent; the features of the foetus were totally obliterated; the body, although also much decomposed, retained its natural formation. The bladder appeared healthy, and contained a small quantity of urine.

ART. 156.—*The History and Statistics of Ovariotomy, and the circumstances under which the operation may be performed.* By Dr. GEORGE H. LYMAN.

(*Philadelphia Medical Examiner*, Dec., 1856.)

This is a notice of a dissertation to which the prize of the Massachusetts Medical Society was awarded in 1856. According to this notice this dissertation gives the particulars of 300 cases (a larger number than was ever brought together by any previous writer), and it has throughout the marks of care and accuracy.

Of the 300 cases collected by Dr. Lyman, 23 were performed by Dr. W. L. Atlee; 32 by Dr. F. Bird; and 50 by Mr. Clay—105 cases by three operators—one third of all the cases on record! Of Dr. Atlee's cases, the operation was completed in 19; in 4 not completed on account of adhesions, &c.; of the complete operations 11 died, or

* See Ashwell on 'Diseases of Women,' p. 619, who says, "For my own part I have so great a dread of the continuance of retroversion, that I would not hesitate to introduce the whole hand into the rectum, and exert very considerable power to accomplish this desirable object."

58 per cent.; one case, tabled as a recovery, died four months afterwards of erysipelas; of the 4 incomplete cases, 1 died. Of Dr. Bird's cases 12 were complete operations, and 20 incomplete; of the complete 4 died, or 33 per cent. Of Mr. Clay's cases 40 were complete, and 9 incomplete operations; of the complete 14 died, or 34 per cent.; of the incomplete 2 died.

The following are some of the facts gathered by the author:

"In three tenths of the cases, the operation could not be completed.

"The rate of mortality in all the operations was 40·13 per cent.

"In seven tenths of the cases, the operation was completed, with a resulting mortality of 42·78 per cent.

"In the unfinished operations, the mortality was 30·68 per cent.

"The proportion between the whole number of recoveries, *after the removal of the tumour*, and the whole number of operations undertaken in hope of such a result, we find to be as 39·66 to 100, or less than two fifths!

"Adhesions caused the abandonment of the operation in 22·06 per cent. of the whole number, or caused 77·27 per cent. of the failures.

"No tumour was found in nearly 3 per cent. of the whole.

"Where adhesions complicated the removal, 47·82 per cent. died; where no adhesions complicated the removal, 32 per cent. only died.

"Of the whole number of short incisions, 30·76 per cent. died; of those completed, 38·33 per cent. died; of those not completed, 22·80 per cent. only died.

"Of the whole number of long incisions, 41·95 per cent. died; of those completed, 41·46 died; and of those not completed, 45 per cent. died.

"Previous tapping does not always cause adhesions.

"As far as these cases go, the mortality is least between the ages of fifty and sixty, and greatest under twenty.

"The mortality is least when the disease is of between three and four years' duration.

"There is but little difference in the mortality between the married and single.

"The right ovary is more often diseased than the left, though less so than often stated.

"Of the above fatal cases, 42·35 per cent. were from peritonitis, 23·52 per cent. from haemorrhage.

"Death ensued, upon an average, the eighth day; the average of deaths from peritonitis being also the eighth day; and those from haemorrhage in twenty-two hours.

"And, finally, in more than 10 per cent. of the cases, important errors of diagnosis occurred."

The following summary will afford our readers the conclusions at which the author has arrived:

"1. The mortality attendant upon ovariotomy is no greater than it is after other capital operations.

"2. The mortality resulting from extensive incisions of the peritoneum is generally over-estimated.

"3. Fully developed cystic disease of the ovary tends rapidly to a fatal result.

"4. No method of treatment heretofore devised for it is so successful as extirpation; excepting, possibly, that by injection with iodine, of the results from which we have as yet insufficient statistics.

"5. The operation is unjustifiable in the early stages of the disease.

"6. After active development has commenced, with the supervention of constitutional symptoms, the sooner the operation is performed the greater the chance of recovery.

"7. No rule can be laid down as to the length of the incision, other than the general one,—that the shorter it is, the less the mortality; and that, therefore, the primary incision should always be small, and extended afterwards as may be necessary, according to the exigencies of each particular case.

"8. If, after the operation is commenced, extensive adhesions should be discovered, either the complete abandonment of the intended extirpation, or the attempt to cause suppuration and gradual contraction of the cyst, by means of a permanent external opening, are to be preferred to the division of the adhesions and completion of the operation as originally designed."

ART. 157.—*A case of Vesico-vaginal Fistula treated by Bozeman's suture.* By Dr. WALLACE, Surgeon to the Greenock Infirmary.

(*Glasgow Med. Journal*, April, 1857.)

This case is another instance of the successful adoption of a plan which was first carried into practice in this country by Mr. Baker Brown, of St. Mary's Hospital (*v. Abstract*, XXIII, p. 316).

CASE.—A. M.—, a farm-servant, unmarried, and twenty-nine years of age, about a fortnight after a first labour, which extended over several days, and which was brought to a close only by the use of instruments, was found to have a constant dribbling of urine. For the relief of this she was admitted, on the 2d of January, 1856—five weeks after delivery—into the wards of the Infirmary, at that time under the charge of my colleague, Dr. Henry. According to the journal, she was then discovered to have a ragged opening in the bladder, about three eighths of an inch in diameter, and about half an inch in front of the anterior lip of the uterus, the discharge of urine being almost constant, and quite uninfluenced by position. On the 10th, the edges of the aperture were touched with the actual cautery, and the patient enjoined to lie half on her face, with a catheter fixed in the bladder in the usual way, and with a large sponge placed in such a manner as to suck up the urine as it escaped. In the latter respect, however, the patient was not easily made to submit, so that some days she was with the instrument, and some days without it. The cautery, notwithstanding, was reapplied on the 24th of March, as well as on the 10th and 27th of February, and with so much benefit as to allow the patient, when lying on either side, to retain her urine up to a certain amount. After this, and up to the 1st of May, when the patient was transferred to my charge, the cautery was repeated six times, and after intervals varying in duration. I then found that the opening had contracted to a little less than the diameter of a small-sized quill, and that the cicatrization had proceeded almost entirely from behind forwards, the lips of the uterus being, besides,

rather irregular, as if from previous laceration, and the perinæum bearing marks of having been partially ruptured.

As improvement from the use of the cautery had been so decided, I now resolved on its continuance, and had recourse to it, accordingly, on the 18th of May, 14th of June, and 18th of July, and with so much success, that on an examination made on the 6th of August, the opening was found to have contracted so as to admit merely the point of a fine probe or stocking-wire. Indeed, as the fistula was in the centre of a transverse groove, it was at first made out with difficulty, and only after causing the patient to press down, so as to allow a drop of urine to escape. The patient, at this time, was able to lie on either side for several hours without any dribbling, but, on attempting the erect posture, the urine trickled away as much as formerly. I still continued, therefore, the occasional employment of the cautery, by means of a stocking-wire brought to a white heat, but, unfortunately, without any further amendment, although the patient, for a considerable time after each application, was made to lie on her left side with a catheter fixed in the usual way, and attached to an india-rubber urinal. There was, it must be admitted, at a certain stage after each cauterization, an appearance of cure; but this invariably turned out to be deceptive, the urine evidently escaping quite freely on very first tendency to contraction on the part of the granulations.

Despairing now of any farther benefit from the use of the cautery, I thought of attempting palliation merely. I accordingly procured for the patient an india-rubber bag, having a flexible tube attached to it, and fitted with a stop-cock. The bag being introduced into the vagina was inflated through the tube by means of a small air-pump, and to such an extent as to fill the passage completely, and prevent the escape of urine when the patient was in the erect posture. When thoroughly filled, the cock was closed, and the patient allowed to go about at will. The distension, however, was so irksome that the employment of the apparatus had, after a few days, to be abandoned altogether, and that, moreover, independently of the excoriation produced in the vagina by the presence of the foreign body, to guard against which, the bag was removed twice a day, and the passage carefully washed out with tepid water.

Notwithstanding these failures, I did not think of trying any form of suture till the beginning of December, for I still held on to the hope, that as the cautery had been successful in reducing the opening from a diameter of three eighths of an inch to that of a common pin, it would ultimately, with patience and perseverance on my part, produce complete closure. At all events, I saw nothing in the method of Dr. Sims to divert me from the cautery. The publication, however, of Mr. Brown's case of cure by the method of Dr. Bozeman, as well as the simplicity of the plan itself, led me to the determination to have recourse to the knife. Accordingly, on the 13th of January last, I proceeded to operate, with the aid and concurrence of my colleagues. The patient having been brought under the influence of chloroform, was placed in the lithotomy position. The walls of the vagina were then held separate by two of the assistants, by means of two ordinary tongue-depressors. In this way the fistula was brought readily into view. The mucous membrane, to the extent of an eighth of inch around it, was then dissected off by the long-handled knife and forceps recommended by Mr. Brown, and figured by him at page 97 of his treatise. After this, a small needle threaded with fine silver wire was made, by the aid of a porte-aiguille, to pass through the vaginal wall on one side of the opening, from about half an inch in front of the dissected edge, to a line drawn transversely through the opening. The needle was then made to transfix the posterior part in the opposite way, the mucous membrane

of the bladder being, of course, carefully avoided. The thread having now been drawn through, and both ends allowed to hang out of the vagina, the needle was removed, and a similar proceeding followed with a second wire on the other side of the opening. The ends of each wire were then slipped through a perforated presser, which was passed down, and thereby brought the scarified edges in exact apposition. A silver-plate, nearly oval in shape, and perforated in two places about a quarter of an inch apart, was then slipped over the wires, and passed down upon the closed edges. A perforated shot was next passed along each wire, and, after being pressed down, was clamped by means of bellhangers' forceps. The wires being then cut off close by the shot, a piece of lint, soaked in oil, was inserted in the vagina, and the patient afterwards placed in bed, where she had an S-shaped catheter introduced into her bladder, and attached by a flexible tube to an india-rubber bag, strict injunctions being given her at the same time to lie on her left side. Two grains of opium were given immediately after the operation, and one grain ordered at the rate of every four or six hours; the diet to consist of tea and beef-tea; two days afterwards, the lint was removed, and the vagina washed out with tepid water. The patient having slept well on the preceding nights, and being altogether in good condition, was now ordered to take the opium only night and morning, to have full diet, with a glass of sherry daily, and to have the vagina washed out once a day. Under this treatment she progressed favorably, no inconvenience being experienced from the presence of the catheter, which, from its shape, required no retentive bandages, and which was taken out twice or thrice a day in order that it might be cleaned, and that the bag might be properly emptied. Nine days after the operation, the wires were cut off by means of long scissors, and the plate and wires carefully removed. Perfect union was then found to have taken place, except in the situation of one of the wires, which had nearly sloughed out. The opium was now withdrawn, and in two days more the catheter entirely removed. The patient's bowels were then also acted on for the first time since the operation, by an injection, after which she was found able to retain her urine in any position, and to keep it for four hours at a time. About a week afterwards, cicatrization was almost entirely complete, and the patient able to go about, and to keep her water as well as if she had never laboured under such an affection as that for which she had been treated. At this time she might have been dismissed; but, for the sake of greater security, I kept her in the ward till the 1st of March, when she obtained a situation as a servant, in which capacity she is still employed.

ART. 158.—*Cure of Vesico-vaginal Fistula by bruising the Vaginal Mucous Membrane.* By Dr. BERTEL.

(*L'Union Méd.*, Feb., 1857; and *Medico-Chir. Review*, April, 1857.)

Dr. Bertel records a case of cure of vesico-vaginal fistula by a method which consists in pinching and crushing the vaginal mucous membrane. A woman, aged fifty, had suffered from a fistula for fourteen years. It was deeply seated, and engaged the body of the bladder on a level with the os tincæ. It was capable of admitting the tip of the finger through the vagina into the bladder. It was slightly oval; its larger extremity was directed towards the fundus of the bladder; its edges were somewhat thickened and hard; it was not funnel-shaped. The lesion followed a laborious delivery. M. Bertel

applied a pinching instrument to nip the edges of the fistula together, which he promises to describe hereafter when made more presentable and scientific. On the third day it was found that no urine escaped into the vagina. On removing the instrument, the opening was found closed. In its place was a ridge of a reddish-brown colour, easily bleeding, half the size of a cherry. Henceforth all urine passed by the urethra—no opening could be detected. The cure Dr. Bertel describes as perfect.

ART. 159.—*A case of painful swelling of both Legs resembling Phlegmasia Dolens.* By Mr. HENRY LEE, Surgeon to King's College Hospital, &c.

This case was brought before the Royal Medical and Chirurgical Society on the 9th December, 1856.

CASE.—The patient was seized, while a patient in the Brompton Hospital, with pain, tenderness, and swelling, in the upper part of both thighs; the symptoms subsequently extended down the extremities, the legs and feet becoming oedematous. The right limb was the first affected. There were no acute inflammatory symptoms. The affection continued until her death, which occurred about seven weeks after the first appearance of these symptoms. On examination after death, the lungs were found infiltrated with tubercles. The left iliac and femoral veins were completely plugged. The right femoral vein was found to be occupied for eight or nine inches by a continuous false membrane, and obstructed, more or less perfectly, at different parts by fibrinous deposit. The false membrane was nowhere so adherent to the lining membrane as not to be easily separable from it; and there were portions of the latter over which the false membrane passed which were in no way altered from their natural character.

Mr. Lee argues that such a case could not be regarded as having a local origin, and consequently a starting point from which inflammation might extend, as is stated to be necessary in phlegmasia dolens, which affection his case accurately simulated in all respects but the absence of any uterine affection; and also he contends that phlebitis may arise independently of any extension of inflammation, and in such instances can only have for its cause the stagnation of the vitiated blood in the vessels. The author quotes a case recorded by Dr. M'Clintock (*v. 'Abstract,' XXIV, p. 191*), in which inflammation of the large veins of the right side of the neck took place in a woman who had a puerperal affection; and details several experiments on dogs, instituted for the purpose of proving his arguments.

(c) CONCERNING THE DISEASES OF CHILDREN.

ART. 160.—*On the remittent Fever of Children.*
By Dr. J. LEWIS SMITH.

(*New York Journal of Medicine*, Jan., 1857.)

The following considerations have convinced Dr. Smith that this complaint, in a large majority of cases, is miasmatic in its origin, and

not depending upon dietetic errors and other causes of intestinal irritation :

“ 1. The disease is very prevalent in spring and autumn, and rare in mid-summer and mid-winter, like malarious affections. There are certain streets where I have known it to prevail almost like an epidemic in the vernal and autumnal months. If the disease were, as Dr. Condie states, ‘in every instance, either a gastro-enteritis, an ileitis, or an entero-colitis,’ how can this influence of the seasons be explained ?

“ 2. Often, not always, the remissions are more marked than would be likely to occur in a symptomatic fever. The child may appear almost well in the morning, but in the afternoon and evening, exhibit such intensity of symptoms as to cause the greatest anxiety on the part of friends.

“ 3. The symptoms are not altogether such as we should expect to find in a purely local affection. The patient will, it is true, when asked where he feels the pain, sometimes place his hand on the abdomen, and pressure upon the abdominal parietes not unfrequently produces great distress. Dr. Condie alludes to this tenderness, evidently believing it to be a symptom of inflammation. But I have always been satisfied that it was neuralgic, from the fact that pressure on the lumbar vertebrae, and frequently on the chest and limbs, caused as much suffering as when it was made on the abdominal walls. The patient, if old enough, will complain, too, of aching in the head, back, and limbs, which is more the symptom of an independent fever than of inflammation.

“ Again, constipation is ordinarily present, unless in the last stages of the disease. Intestinal irritation or inflammation, sufficient to cause so intense and protracted a fever as is often present, would be more likely to cause diarrhoea.

“ 4. Children even nursing infants, take intermittent fever ; why, then, may they not take remittent fever, from malaria ? In my class at the dispensary, children with these diseases are frequently brought in together.

“ 5. I have found that measures directed to the alimentary canal, beyond simple purgation, do more harm than good. They fail to ameliorate symptoms ; they weaken and distress the child. Moreover, when remissions occur, quinine will materially abridge the disease.

“ 6. Death seldom occurs from this affection. In one or two fatal cases which have fallen under my observation this result followed convulsions and coma ; and Dr. Stewart remarks, “ Dissections have furnished but little light on the morbid condition of the system in remittent fever ; for, on a fatal termination, the transmission to the brain is the ordinary course to the disease.” The mode of death, then, and the post-mortem appearances, do not comport with the doctrine, that the intestines are the seat of the morbid process.

“ Dr. Condie does not agree with Dr. Stewart, but attributes death to inflammation of the intestines. I do not think that the remittent fever which I have treated, if uncomplicated, ever terminates in this way, for I have seen a case in which abdominal symptoms did not yield to simple measures.

"7. Continued fever of the adult is of rare, and infantile remittent of frequent, occurrence in the locality of my practice. The latter is not then identical with the former, as it appears to be in London and Paris, from the descriptions given by Rilliet, Barthez, and West.

"The above facts appear to me conclusive that the form of infantile remittent fever, which it has been my lot to treat, has been generally of a miasmatic character.

"It is very important to understand the nature of this affection, as the treatment will vary according to the theory we adopt. If living in a malarious region, we embrace the Broussaian views of the American authors whom I have cited, and treat the fever as a local disease, we shall fail to ameliorate symptoms, and be mortified and discouraged by the result, if I may judge from my own experience. My reliance at present is mainly on expectant measures, till remissions occur, and then on the exhibition of quinine. In cases thus managed, convalescence has been more speedy and certain, than when opium, calomel, and counter-irritation have been employed to remove intestinal irritation, or inflammation.

"At the risk of appearing presumptuous, I have thus presented a theory of infantile remittent fever not, indeed, novel, for Taylor attributes one variety of it to miasm, but different from that contained in any American and most European treatises on diseases of children. I am the more anxious that the true nature of the disease should be understood, because I believe that the accepted doctrine is exceedingly pernicious to practitioners in malarious regions, and especially to the younger members of the profession who rely more on books than experience for guidance. The fact, too, that remittent fever has been in my practice the most frequent affection of early life, in the vernal and autumnal seasons, gives additional interest to the subject."

ART. 161.—*On the diagnosis of Apneumatoses (pulmonary collapse).*
By Dr. GRAILEY HEWITT.

(*Lancet*, March 28, 1857.)

It being a fact, that one third of the mortality in the second year of life arises from affections in which the bronchial mucous membrane is implicated, the importance of diagnosing the presence of what may be considered the fatal element in these affections—apneumatoses, is quite evident. The effects produced on the system generally by the supervention of this condition involving, as it must do, a serious diminution in the *degree* of the respiration are then briefly described. The *general* symptoms observed in particular cases, so far as they are diagnostic of the presence of apneumatoses, are next considered. Children of weakly constitutions are particularly liable to be attacked with that form of bronchitis in which, as a sequence, apneumatoses takes place. In such cases the febrile stage of the bronchitis is of brief duration, and a state of prostration soon ensues, characterised as follows: The skin becomes pallid, or dull and shrivelled; its temperature sinks. The dyspnœa is aggravated, but altered in character; the breathing is very shallow; the rhythm of the movements "expi-

ratory," very little air entering the chest at each inspiration. The pulse is very weak; the eyes half closed; the lips blue: the cough is extremely feeble. This is a typical description of the symptoms in cases where apneumatoses has followed bronchitis; but many modifications of these are observed in different cases. The shallowness of the respiration, the peculiar kind of dyspnoea, and the pallidity of the skin, are diagnostic signs of great value. There is a great resemblance afforded by the condition just described and that of the cold-blooded animals, the respiration, physiologically considered, being in both cases small in amount. The congenital condition described by Jörg as *atelectasis* differed from apneumatoses, inasmuch as the latter change occurred after birth, and affected portions of lung which had once been properly aerated, although the two conditions otherwise resembled each other. The differential diagnosis of atelectasis and apneumatoses would be based on a consideration of the history of the case in question.

The diagnostic data derived from a *physical examination* of the chest next form matter for deliberation. The diagnosis of a chest affection in early life, the physical signs alone being considered, is shown to be by no means easy. By *inspection* of the chest in cases of apneumatoses, the ribs, at their junction with the cartilages, and the cartilages themselves, are observed to be drawn in during inspiration; the lung does not expand, and the descent of the diaphragm produces a falling in of the thoracic walls at those parts which are the most yielding. At a point two inches below and outside the nipple, the walls most readily give way to atmospheric pressure. The antero-posterior diameter of the chest is then increased, the transverse diameter diminished. Retraction of the chest walls is in conjunction with certain symptoms, of value in a diagnostic point of view. It is not observed to so great an extent when emphysema to a notable degree exists, a circumstance which is not uncommon. *Percussion* gives occasionally information of great value, although the irregular manner in which the apneumatic portions are scattered over the surface of the lobes renders it often difficult to establish the existence of a marked degree of dulness. *Auscultation* shows absence of respiratory murmur when the portions of lung affected are of considerable extent. There is generally heard, however, a rhoncus, which has a somewhat grating character. Rhonchi more or less fine are also usually discoverable, but the fine crepitus of true pneumonia is not heard. The respiratory murmur is often bronchial in character over the affected portions. The absence of continued, and persistent heat of skin, as well as of the true pneumonic crepitus, distinguish cases of apneumatoses from cases of *pneumonia*, in addition to which the rarity of this latter affection in early life affords evidence of a presumptive nature against its being present in a particular case. The history of the case will in most instances be sufficient to distinguish apneumatoses from *tuberculosis of the lungs*. The remarks now offered as to the diagnosis of apneumatoses are to be regarded as suggestive only, a larger experience being necessary in order to do more than indicate the general principles on which the diagnosis in question is to be arrived at. The chief points alluded to in the paper are illustrated by

means of drawings of the lungs of patients who had been under the author's observation during life.

ART. 162.—*Infarction of the Renal Tubuli with Urates in an Infant.*
By Dr. WILLSHIRE, Assistant-Physician to the Charing-Cross Hospital.

(*Assoc. Med. Journal*, Nov. 1, 1856.)

At a recent meeting of the Medical Society of London, Dr. Willshire exhibited the kidney of a child, showing commencing "infarction" of the tubuli uriniferi by uric acid salts. It illustrated a point, he said, in the history of commencing extra-uterine life, which had been lately much discussed in Germany, but had been uninvestigated in England and France. Dr. Willshire believed that this was the first occasion the particular condition of the renal organs, now before the Society, had been publicly demonstrated. The present specimen was also interesting, from the fact that it formed the third which had been recorded of a necessarily small sub-group of examples in the general class of cases to which he alluded. It was taken from a child that had died *in partu*, after having breathed, and went to show that renal infarction might, at least, commence in the living child after labour had begun, and previously to its entire separation from the maternal system. Hitherto, 428 infants had been examined in connection with this question: of these, 113 were dead-born, and not one exhibited the renal infarctus; 206, living from one to sixty days, exhibited it; two dying during birth (the present being one), and one soon after the birth, showed the infarction commencing. The remainder presented no traces of it. Many points of much interest were connected with the subject, and not the least so the question as to how far the condition of the kidney he exhibited could be employed in a forensic argument in a case of suspected infanticide. Dr. Willshire stated that circumstances had occurred in connexion with the suprarenal capsules in the present case which led him to attach weight to the late statement of M. Brown-Séquard, that these organs have to do with pigment formation, and, consequently, to support some recent views of Dr. Addison.

ART. 163.—*On the use of Belladonna in Incontinence of Urine.*
By Mr. BROOKE, Surgeon to the Westminster Hospital, and others.

(*British Med. Journal*, Feb. 21 and 28, March 7 and 28, April 1, 18, and 25, 1857.)

The following cases are calculated to confirm the practice, recently recommended by M. Troussseau (*v. 'Abstract,' XXII*, p. 213), of giving belladonna in these cases.

1. *Mr. Brooke's cases.*—Case 1.—Daniel D.—, æt. 7, a pale delicate-looking boy, was admitted into the Westminster Hospital, January 21st, on account of incontinence of urine, which had existed for several months. He had been carefully watched, and several plans of treatment adopted, among which corporal punishment had not been forgotten. The urine dribbled from him by day as well as by night. He was ordered one sixth of a grain of extract of belladonna, dissolved in a teaspoonful of water, three times a day; no fluid was

allowed after 5 p.m.; and the nurse was ordered, as usual, to see that he passed urine at night. The plan was perfectly successful. After its adoption he only wetted his bed once, at night; and left the hospital, quite cured, three weeks after admission, making water only two or three times a day.

Case 2.—Frederick T—, æt. 17, an intelligent lad, was sent up from the country to be placed under Mr. Brooke's care for incontinence of urine. From his own statement it appeared that he rarely passed a night without wetting the bed. He had been under treatment for two months previous to his admission, but without benefit. On his admission (March 18th) he was ordered to take the sixth of a grain of extract of belladonna three times a day. A daily record of his case was kept; but with the exception of the first night, when he passed water once, he was not troubled in this respect again. In a fortnight from the time of his admission (March 31st) he was considered sufficiently recovered to be sent home again.

2. Dr. Cowdell's cases.—I have just had three patients under treatment—boys—aged respectively 12, 7, and 7.

I will dismiss the latter two first, as they were in private practice, and their cases were not closely watched; and, from the circumstance of the sight, in both, becoming early affected, the remedy caused some alarm, and was not perseveringly used. It must, however, be stated that, concurrently with the use of the belladonna, in one of these, a longer interval without incontinence passed than had ever been experienced before since it had existed.

I will detail the first case only. R. T—, æt. 12, presented himself as an out-patient at the Dorset County Hospital, October 23d, 1856. He had not, since he was four years old, passed more than two consecutive nights without wetting his bed.

I prescribed one eighth of a grain of extract of belladonna in a mixture containing tincture of sesquichloride of iron and quassia. He began at once to improve; but, as I had advised that he should not drink after his dinner, and that he should be roused once or twice early in the night, I was not sure that the remedy had done anything. I increased the dose to one fifth of a grain three times a day, and then he passed twenty-seven nights without once transgressing.

3. Mr. Athol Johnson's case.—Lavinia B—, æt. 8, was admitted as an out-patient at St. George's Hospital, under Mr. Johnson's care, in July last, on account of incontinence of urine. This infirmity had existed since birth, and she had frequently been under treatment for it, both in private and at St. Bartholomew's Hospital, without, however, deriving any material benefit. At the time of her admission, the urine was acid, and nothing particular was to be observed as to its composition. She used to pass it frequently in the day, and usually wetted her bed two or three times during the night. She was treated at first, up to October 29th, with purgatives, alkalies, and blisters to the sacrum, but without improvement being thereby obtained. It may be observed that there were no worms. At the above date, she was ordered one eighth of a grain of extract of belladonna, night and morning. On November 22d, it is noted that the child had been doing very well since the use of the belladonna, and that she only passed urine in bed about once in a week. After this, she did not attend regularly; and on February 11th, after an absence of more than a month, she again presented herself in much the same state as at first, the urine being again passed frequently. The belladonna was resumed, and the incontinence again materially checked, especially at night. On February 25th, the quantity of the drug was increased to one sixth of a grain; and on March 18th, when last seen, she had not passed water in bed since the previous date.

4. *Mr. G. B. Masfen's case.*—M. B.—, æt. 5, who had been under my care in St. Mary's Hospital, Manchester, at various times since February 6th, 1856, suffering from incontinence of urine, under a variety of treatment, and with, at the best, very trifling amendment, was again admitted on the 28th of January, 1857. He is a delicate-looking boy, but apparently healthy in all other respects than the disease for which he was under treatment. He had rarely passed a night, that his mother could recollect, without wetting his bed; and the treatment which had appeared to do him most good was abstinenace from drink in the after part of the day; but this could not be successfully carried out in warm weather.

I prescribed an anodyne alkaline mixture, with an occasional drastic aperient, till having seen the report of Mr. Brooke's case, I ordered, on February 28th, one twelfth of a grain of extract of belladonna to be taken three times a day, when a marked improvement immediately commenced, which continued till, after having the medicine for twelve days, there was no more appearance of the symptoms. He continued under the same treatment till March 21st, when I discharged him apparently cured. I shall keep this case under notice, and, should any relapse occur, shall not fail to place it on record.

While on this subject, I may mention that I wrote to a sometime patient of mine, who had consulted several eminent practitioners in various parts of the kingdom, and who seldom passed a night without wetting his bed, from birth to the age of sixteen, to suggest this remedy to him. He replied as follows: "The weakness with which I was afflicted so long has at last left me entirely. . . . Very likely the sea-bathing at Boulogne did a great deal towards a cure, as I was not subject to it after I took a bath three times a week at six in the morning."

5. *Mr. Spencer Smith's case.*—Walter S.—, æt. 8, was admitted into St. Mary's Hospital, under Mr. Smith's care, on February 14th. He had been operated on for stone three years before in this hospital, by the usual lateral incision, and left the house six weeks afterwards cured. No incontinence or other bad symptom then existed. Soon afterwards (but how long is not known), being then at home, badly fed and ill cared for, incontinence of urine came on. He passed water, at the time of his admission, thirteen or fourteen times in the course of the day, without pain or scalding, and his bed was constantly wetted at night. For eleven days he was treated with cod-liver oil and steel wine, together with good diet and the usual regimen, but no amelioration was noticed. On February 25th, one sixth of a grain of extract of belladonna was added to each dose of his medicine, and he was ordered to take no fluids after 8 p.m. On the third day the nurse reported that he did not wet himself so much; and he continued to improve till March 8th, when he was nearly free from the symptoms, as he hardly wetted his clothes at all during the day, and did not pass water at all in bed. At this time he fell sick for a day or two, his appetite failed, and the stomach rejected food. The belladonna was omitted for five days, and a little acetate of ammonia mixture substituted. A marked relapse took place; his clothes were saturated with urine, and the usual ammoniacal smell became again evident about his person. The stomach had now regained its tone, and the former treatment was resumed and continued till April 14th, when he left the hospital greatly improved: he no longer wetted his clothes by day or night, and the only remaining inconvenience was that of more frequent micturition than can be considered quite healthy.

REPORTS

ON THE

PROGRESS OF THE MEDICAL SCIENCES.

January—June, 1857.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON PRACTICAL MEDICINE, &c.

Reflections on the results of experience as to the symptoms of Internal Inflammation, and the effects of bloodletting during the last forty years.

By W. P. ALISON, M.D., D.C.L., Emeritus Professor of Practice of Medicine, Edinburgh. ('Edin. Med. Journal,' March, 1856.)

Observations on the results of an advanced diagnosis and pathology applied to the management of Internal Inflammations, compared with the effects of a former antiphlogistic treatment, and especially of Bloodletting. By J. HUGHES BENNETT, Professor of the Institutes of Medicine and of Clinical Medicine in the University of Edinburgh. ('Edin. Med. Jour.' March, 1857.)

Reply to Dr. Bennett's Observations on the results of an advanced diagnosis and pathology in the management of Internal Inflammations. By W. P. ALISON, M.D., Emeritus Professor of Medicine, Edinburgh. ('Edin. Med. Journal,' May, 1857.)

A Reply to the preceding paper to Dr. Alison. By J. HUGHES BENNETT, M.D. ('Edin. Med. Journal,' May, 1857.)

THE Medical and Chirurgical Society of Edinburgh has recently been the scene of a *passage d'armes* between Dr. Alison and Dr. J. Hughes Bennett, upon the change which has taken place in the treatment of inflammatory affections. It is admitted by both combatants that the practice of bleeding in acute inflammations has, within a recent period, undergone a great change—that, whereas formerly it was the rule to bleed promptly, largely, and repeatedly, that now such bleeding is rarely practised and rarely necessary. According to Dr. Alison, antiphlogistic remedies, and more especially bloodletting, were formerly highly successful in arresting the disease, whereas now they are actually injurious; and the inference he draws is that inflammation itself is no longer the same—that its type, and more especially the febrile symptoms accompanying the inflammation, have altered from an inflammatory to a typhoid type, and that the practice has very properly changed accordingly. According to Dr. Bennett, on the contrary, this great revolution in treatment is the natural consequence of an advanced knowledge in diagnosis and pathology. In the first place, Dr. Bennett thinks that little reliance can be placed on the experience of those who, like Cullen and Gregory, were unacquainted

with the nature of internal inflammations and the mode of detecting them. In the second place, he thinks that inflammation is the same now as it ever has been, and that the analogy sought to be established between it and the varying types of fever is fallacious. In Dr. Bennett's opinion, moreover, the principles on which bloodletting and antiphlogistic remedies have hitherto been practised are opposed to a sound pathology. How these principles are thus opposed will appear in what is said upon the natural progress of inflammation.

"If," says Dr. Bennett, "we watch the natural progress of inflammation in any of the textures of the body, we observe that it terminates in two ways, viz., 1st, by vital changes of growth of different kinds in the exudation, constituting what has hitherto been called suppuration, adhesion, granulation, cicatrization, the healing processes, etc., etc.; and, 2dly, by death of the exudation, which, if rapid, putrefies, producing gangrene, or, if slow, disintegrates, causing ulceration. The first series of changes are not destructive, but formative and reparative. Suppuration especially should be looked upon as a kind of growth, which enables the exuded and coagulated blood-plasma to be rapidly broken up, and eliminated from the economy. If so, instead of being checked, it should be encouraged as much as possible; a very different doctrine from what has hitherto prevailed. Again, every thing that lowers the vital strength and weakens the economy, must impede the nutritive processes of growth, and tend more or less to a slow or rapid death of the exudation. Bloodletting, especially, has this tendency, and must, therefore, be wholly opposed to the rapid disappearance of inflammation; for example:

"If a bone be fractured, inflammation occurs around the injured part, and exudation is poured out, which undergoes vital changes, whereby ultimately it is transformed into bone. If soft parts are destroyed or removed, the exudation poured out from the injured vessels undergoes other vital changes, whereby it is transformed into fibrous tissue, constituting, first granulations, and then a cicatrix. After subcutaneous section of tendon, with separation of its extremities, the transformation is more perfect, producing, as in the case of bone, a growth exactly similar to the one which was injured. If a violent blow or injury has been received, a greater or less amount of exudation is infiltrated among the contused and torn tissues, which is transformed by cell-growth into pus, which, if it can be evacuated externally, is soon got rid of, but if not, is on the disintegration of the cells absorbed and excreted from the economy. If, under other circumstances, the pus is absorbed as rapidly as it is formed, the inflammatory swelling is said to be resolved or discussed; if not, it collects in the form of a fluid to constitute an abscess. Surely it cannot be maintained that, in any of these cases, we can favour these reparative processes by bloodletting and lowering the strength of the economy. On the contrary, they have always been found to be best perfected in individuals of vigorous constitutions, whilst in scrofulous or broken-down and weak persons, they proceed slowly or not at all.

"But in internal inflammations, say of the lungs or pericardium, are the processes different? Certainly not. In the one case the exudation is converted into pus-cells and absorbed, and in the other into fibrous

texture, causing adhesions. But because these processes have been hid from view, physicians have supposed that, instead of treating the inflamed parts as the surgeon does, he ought to attack the general symptoms which result from the lesion. In cases of fracture and contusion, there are also febrile symptoms, increased pulse, and so on. But does the surgeon imagine that callus will form better, or his abscess be resolved, or reach maturity sooner, by general bloodletting and antiphlogistics? Experience teaches him otherwise, and in the same manner it is certain that such treatment does not favour the natural termination of internal inflammations.

" It may be well, however, in further proof of this, to point out a little more particularly what are the changes which a pneumonia and a pericarditis do go through, as illustrative of the proposition we seek to establish.

" In pneumonia the exudation is infiltrated into the air-vesicles and minute bronchi, and between the fibres, blood-vessels, and nerves of the parenchyma, imprisoning the whole in a soft mass, which coagulates and renders the spongy texture of the lung more dense and heavy, or what is called hepatized. This accomplished, no air can enter, the circulation in the part is arrested and the nerves compressed, and the object of nature is now to reconvert the solid exudation once again into a fluid, whereby it can be partly evacuated from the bronchi, but principally reabsorbed into the blood, and excreted from the economy. This is accomplished by cell-growth. In the amorphous coagulated exudation, granules are formed, around groups of these cell-walls are produced, and gradually the solid amorphous mass is converted into a fluid crowded with cells. This is pus. The cells, after passing through their natural life, die and break down, whereby the exudation is again reduced to a condition susceptible of absorption through the vascular walls, and once again mingles with the blood, but in an altered chemical condition. In the blood, the changed exudation (now called fibrin) undergoes further chemical metamorphoses, whereby, according to Liebig, it is converted, by means of oxygen, into urate of ammonia, choleic acid, sulphur, phosphorus, and phosphate of lime. The urate of ammonia, by the further action of oxygen, is converted into urea and carbonic acid; the choleic acid into carbonic acid and carbonate of ammonia; the sulphur and phosphorus into sulphuric and phosphoric acids, which, combining with an alkali or earth, form sulphates and phosphates. If it should happen that the quantity of oxygen taken is not sufficient completely to accomplish this cycle of changes, then, instead of urea, either urate of ammonia appears in the urine, or if the ammonia have entered into any other combinations, pure crystals of uric acid or fibrin. In consequence of these or similar changes, the exudation is finally removed from the economy.

" In a pleurisy or a pericarditis, the transformations occurring in the exudation are different. Let us follow them in the case of pericarditis, as we have carefully described them in pleuritis in another place. When a severe inflammation of the pericardium occurs, the liquor sanguinis is exuded in considerable quantity, separating the serous layers to a greater or less extent. After a time the fibrin coagulates and forms a layer which attaches itself to the membrane, whilst the serum of

the blood accumulates in the centre. The coagulated fibrin at first assumes the form of molecular fibres, plastic or pyoid cells are formed in it; others throw out prolongations, so as by their union to form a plexus, which, communicating with the vessels below the serous membrane, renders the exudation vascular. Gradually the surface assumes the appearance of a villous membrane, as well as the absorbent functions of one. The enlarged villi frequently contain vacuoles or spaces, reminding me strongly of the placental tufts, than which nothing can be imagined more perfectly adapted for the purposes of absorption. In consequence, the serum now disappears, the two false membranes are brought into contact, and thus absorption, as soon as it is no longer required, is put an end to, and adhesion occurs. The matters absorbed into the blood pass through the same series of changes as those in pneumonia do, and are eliminated from the economy in a similar manner. Such is the natural progress of pericarditis.

"The two kinds of processes now described exhibit the same wise design in pathological as we everywhere find in physiological actions. In the vascular tissue of the lung, new blood-vessels are unnecessary. But in the non-vascular serous membrane, they must be formed to bring about removal of the morbid products. In the one case the entire exudation is transformed into cells, to produce rapid disintegration and absorption, which latter is easily accomplished by the already formed numerous vessels of the lung. In the other case, the exuded liquor sanguinis is separated into solid and fluid parts, and as there are no vessels in the serous membrane, they are formed in one portion of the exudation to cause absorption of the other.

"During the progress of these essentially vital acts and modes of growth and formation, how can it be supposed that lowering the strength by bloodletting can influence them in any way except for the worse; that is to say, weakening that power on which the transformations depend?"

In the last place, Dr. Bennett attempts to show that all positive knowledge of the experience of the past, as well as the more exact observations of the present day, alike establish the soundness of his position. The history of pneumonia is appealed to, and the answer appears to be very conclusive. At any rate Dr. Alison allows it to pass unchallenged. Appealing to this history, then, it would appear that the result of a vigorous antiphlogistic treatment of pneumonia, as formerly practised in the Edinburgh Infirmary, in the Hôpital la Charité, at Paris, and elsewhere, is a mortality of 1 in 3 cases; that the result of a treatment by tartar emetic in large doses, as practised by Rasori and more recently by Dietl, is a mortality of 1 in 5 cases, or, according to Laennec, of 1 in 10; that the result of moderate bleedings, as in the treatment of Grisolle, is a mortality of 1 in $6\frac{1}{2}$ cases; and that the result of a dietetic treatment, with occasional bleedings and emetics in severe cases, as with Skoda, is a mortality of 1 in 7, and if pure, as under Dietl, a mortality of 1 in 13. These are data derived from the experience of large public hospitals. Dr. Bennett also shows that the mortality from pneumonia in the army and navy, where the malady has arisen for the most part in healthy able-bodied men, is also 1 in 13. And, lastly, Dr. Bennett shows that

the result of his own practice at the Edinburgh Royal Infirmary, during the last eight years, has been to reduce the mortality still further, namely to 1 in $21\frac{1}{2}$ cases or to $\frac{1}{7}$ only of the numbers of twenty years ago. In this practice no attempt is made to cut the disease short, or to weaken the pulse and vital powers; but, on the contrary, the aim is to further the necessary changes which the exudation must undergo in order to be fully excreted from the economy. To this end salines are given in small doses during the period of febrile excitement with a view of diminishing the viscosity of the blood. As soon as the pulse becomes soft, good beef-tea and nutrients are ordered; and if there be weakness, from four to six ounces of wine daily. As the period of crisis approaches the excretion of urates is favoured by giving, three times a day, a diuretic, consisting generally of half a drachm of nitric ether, sometimes combined with ten minimis of colchicum wine; but if the crisis occurs by sweat or stool no care is taken to check it in any way.

The question, no doubt, is one of considerable difficulty, and much remains to be proved before it can be finally disposed of, but at the same time we do not hesitate to say that our sympathies, both in pathology and practice, are with Dr. Bennett rather than with Dr. Alison. At any rate we cannot allow that Dr. Alison has advanced sufficient evidence to show—and this is the great point of his argument—that bleeding and other severe antiphlogistic measures have ceased to be necessary because inflammation itself has become more asthenic than it was formerly.

On the cause of prolonged Expiratory Murmur, and its value as a symptom in the early diagnosis of Phthisis. By Dr. C. W. BELL, of Buxton, Derbyshire. ('Assoc. Med. Journ.,' November 29th, 1856.)

We would direct the attention of our readers to the accompanying remarks, for, if we mistake not, they enable us to understand the cause of that physical sign which is so constantly present in the early history of phthisis—namely, the prolonged expiratory murmur.

"Many years ago," writes Dr. Bell, "when assisting at the vivisection of a stunned rabbit, in which the trachea and larger bronchi were fully exposed, I was surprised to observe their muscular fibres contract, diminishing the diameter of their tubes, at each movement of inspiration. It is not the general belief that the tubes are contracted during inspiration, and expanded in expiration; but if we consider the anatomical structure of the lungs and the physical effects which the whole apparatus of respiration is intended to produce, it will be obvious that, had the bronchial tubes been made to contract during expiration, and expand during inspiration, as they are generally imagined to do, this would have defeated the object of bestowing on them any contractility or power of elastic expansion.

"The intention to be fulfilled by expansion of the chest through raising the ribs and depressing the diaphragm, is to cause the air to rush into the cells of the lungs: now, if the tubes all expanded at the same time as the thorax, say, for the sake of argument, to the same extent to which

the capacity of the chest had been increased by its expansion, it is obvious that no air whatever would penetrate into the cells, as all that was drawn into the chest would be required to fill the tubes. Or, if the parietes expanded much, and the tubes comparatively little, the real vacuum in the air-cells would be only the difference between the increased capacity of the chest, and the increased space occupied within it by the expanded tubes. But on the other hand, if instead of expanding, the tubes contract at the moment the chest expands, thus occupying a less space in its interior just when its capacity is greatest, it is obvious that a much increased vacuum will be formed, and that it will take place in the air-cells where alone it is required; and thus, whatever air enters the chest goes directly to its destination, instead of lingering in the tubes.

"Taking this view, the operation of expiration as well as of inspiration, will be more intelligible, for it will be seen that if the tubes expand at the same moment that the chest contracts, the air-cells will be submitted to direct pressure between the expanding tubes and the contracting thoracic parietes; and while the air that has ceased to be serviceable to the animal economy is thus more effectually expelled from them, the way is at the same time more widely opened for its exit.

"It will be seen from the above, that inspiration is principally due to *muscular action* in the thoracic muscles, the diaphragm, and the circular fibres of the bronchial tubes, whereas expiration depends more on cartilaginous *elasticity*, bringing down the ribs and expanding the tubes.

"If additional argument be wanting for the belief that the lungs must in themselves possess considerable power of inspiration and expiration, while within the unopened chest, independent of the expansion and contraction of the thoracic parietes, we would point to the apparently very small amount of abdominal respiration in a case of fractured rib, bandaged *secundum artem*, and to certain states of syncope, etc., that will suggest themselves to each of us, in which respiration is maintained without any apparent thoracic or diaphragmatic motion.

"It appears, then, that contraction and expansion of the bronchial tubes is the only satisfactory mode of accounting for the well-established fact, that the sound made by the inhaled breath rushing through the tubes towards the air-cells is considerably more protracted than that made by the same air returning in expiration; for there does not appear sufficient difference in the forces exerted in drawing in and expelling the breath, to account for the difference of time occupied in its entrance and its exit, if the calibre of the tube remained the same.

"No sooner, however, do we admit that the air-tubes contract during inspiration, and expand during expiration, than the full value of a slight prolongation of the expiratory murmur becomes apparent as a consequence, and therefore as a certain symptom, of the deposit of tubercle in the parenchyma of the lung: for what change should we *a priori* infer to have taken place in the condition of the bronchi, if we found the expiratory murmur becoming as long, or nearly so, as that of inspiration, but that something had occurred to impede their elastic expansion, and that the tubes remained nearly of the same calibre in expiration as during inspiration? Now the part in which the earliest deposit of tubercle is found in the

structure of the lung is known to be the cellular tissue immediately surrounding the minute bronchi; and the natural effect of this would be to impair their elastic expansibility, and cause the difference of calibre of the tube in its utmost degree of contraction and expansion to be less than in health, and consequently the duration of the murmur of expiration to approach that of inspiration. I do not know that it is ever so protracted as to equal the latter sound; nor should we expect that the deposit of tubercle, although plainly calculated to interfere with the elasticity of the bronchi, should do away with the contractile power of their muscular fibres.

"What gives peculiar value to prolonged expiratory murmur as a reliable symptom of phthisis is, that, so far as I know, there is no other condition of the lung capable of producing it; cancer of the lung is the only disease that appears to me likely to do so, but whether it does or not, I have had no opportunity lately of ascertaining."

"The importance of possessing any symptom on which we can implicitly rely, independently of concomitant evidence, cannot be too highly appreciated in this disease, because it enables us to begin and follow up earnestly a course of treatment at a stage of the malady so early as almost to ensure success; and a firm conviction that this symptom is truly diagnostic has this farther advantage, that, by the concentration of our attention upon it the ear soon becomes educated to a much finer discrimination of the presence or non-existence of tubercle than at first could have been thought possible, and in some cases a diagnosis may be made from this alone with a degree of certainty, that a stethoscopist without faith in it could hardly venture to found on the aggregate of all the other evidence derivable from auscultation and percussion.

"But it is not only in their bearing on the early discovery of tubercle in the lungs that the above considerations will be found interesting; for there are nervous affections of respiration, in which it is important to consider the action of the bronchial tubes, such, for example, as the anomalous sounds heard in some curious forms of hysterical spasm of the chest and throat, but more especially in spasmodic asthma, in which it is often most painful to the ear to listen to the effects of continued muscular contraction of the tubes during expiration."

On the pathology, symptoms, and treatment of Ulcer of the Stomach, with an Appendix of Cases. By W. BRINTON, M.D. F.R.C.P., Physician to the Royal Free Hospital. (Post 8vo, Churchill, 1857, pp. 227.)

This work (which is a reprint, with some alterations and additions, of various papers on ulcer of the stomach, which had appeared in various periodicals during the last few months) may be described as collecting and incorporating facts hitherto scattered and little accessible, and as recording the existing state of our knowledge respecting a very common disease, for, as Dr. Brinton shows, open and unhealed ulcer of the stomach may be found in $2\frac{2}{3}$ per cent. of persons dying from all causes, and the scar of such ulcer may be found in $2\frac{2}{3}$ per cent. Ulcer of the stomach, indeed, is a much more common disease than many are disposed to think, and hence it may be

well to devote our space to repeating what Dr. Brinton has to say upon two questions, merely adding that the rest of the work attests equally to the patient and expert inquirer, and to the sound practitioner.

In reply to the question, *what is the minimum of evidence that will justify our affirming the existence of an ulcer of the stomach during life?* Dr. Brinton says:

"A specific answer to this question it is impossible to give. But I am inclined to think that nothing less than all the chief symptoms enumerated entitle us to pronounce a decided opinion. In other words, unless the pain possess the characters attributed to it,* unless this pain

* The character of the pain is peculiar. Rarely or never does the sufferer describe it as lancinating, stabbing, or stitching. In the earliest stage of the disease, it is little more than a feeling of weight, sometimes a tightness, giving the patient an impression as though the food experienced a stoppage in his epigastric region. Retaining these dull and continuous characters, it then gradually becomes intensified into a burning sensation, and at last into a gnawing pain, that produces a kind of sickening depression, which is quite distinct from the nausea often associated with it. The date of its access is also characteristic. In a vast majority of cases it comes on from two to ten minutes after the ingestion of food, and remains during the one or two hours which correspond to the period of gastric digestion, at the close of which act it gradually subsides and disappears. And when, as is often the case, it is accompanied by vomiting, it almost invariably ceases as soon as this act has emptied the stomach of its contents. In some instances, however, the pain follows deglutition immediately, instead of being preceded by the usual interval of a few minutes. In some instances the pain imitates that of an ordinary form of dyspepsia, in only coming on half an hour, an hour, or more, after eating. Lastly, in what are generally either large lesions or protracted cases—often both—the pain loses the above character, becoming continuous during the intervals of the meals, and lasting days or even weeks without any intermission; or it even occurs chiefly on an empty stomach, and is alleviated by the ingestion of food. The situation of the pain forms another of its characteristics. The place of its earliest appearance and greatest intensity, and to which it often remains strictly limited, corresponds to the centre of the epigastrium, or to the median line of the belly immediately below the free extremity of the ensiform cartilage. The portion of the epigastric region to which the pain is referred, forms a circular area of rarely more than two inches diameter,—sometimes, indeed, a mere spot of less than half this size. The dorsal pain, first described by Cruveilhier, constitutes almost as important a symptom of the gastric ulcer. As far as my experience goes, it generally comes on a few weeks or months later than the epigastric pain, and from this time forth is quite as constant and characteristic, if not as distressing. It is almost always felt as a gnawing pain, which, ranging in its vertical position from the spine of the eighth or ninth dorsal to that of the first or second lumbar vertebra, is usually "interscapular" as well as "rachidian." Like the epigastric pain, it has a fixed seat, generally remaining at or near the spot of its first appearance during the whole progress of the disease. Like it, also, there are lateral as well as vertical deviations from its ordinary situation. But I do not think I have ever seen these remove it to a greater distance than one or two inches from the median line, indeed, scarcely ever more than a single inch. Its worst attacks generally alternate—rarely coincide—with those of the epigastric pain. Whether the pain of a gastric ulcer is always increased by pressure, it seems impossible to decide. There is only one necropsy on record—and this probably not of a true or spontaneous ulcer—in which it is distinctly specified that pressure was altogether devoid of such an effect. The effect of posture on the pain in different cases is more variable. As a rule, a severe paroxysm is relieved by the recumbent posture, no matter what may be the situation of the ulcer in the stomach. But the varieties of the recumbent posture—or, to speak technically, the *decubitus*—will often have no influence whatever in increasing or diminishing the pain. The effect of movement upon the pain closely corresponds to that of posture. As a rule, all violent bodily exertion is likely to be followed by an attack. While even the moderate exertion implied in walking, sustained so as to produce fatigue, generally brings about the same effect.

be accompanied by vomiting, and unless there be evidence of haemorrhage having occurred in the course of the malady, there is no sufficient basis for a definite diagnosis of the existence of a gastric ulcer. The date, duration, and frequency of the pain chiefly indicate some morbid condition of the mucous membrane of the stomach. The vomiting adds, that this disease implies great irritation of the nervous centres connected with the organ. And it is reserved for the haemorrhage to show that the disease is such as to involve an absolute breach of continuity in the structure of the stomach.

"But I have not the slightest doubt that an absolute enforcement of this rule of diagnosis would lead us to overlook a vast number of cases; and might thus be the occasion of grievous errors in practice. In point of fact, beyond the limits of secure diagnosis, there are a large number of cases in which we may justifiably entertain strong suspicions that the symptoms are due to this lesion.

"In saying this, I am desirous to be understood as speaking chiefly of my own clinical researches. But though I dare not lay much stress on the negative evidence derivable from the symptoms recorded in many hundreds of cases of perforation or haemorrhage scattered through various journals,—for in a large number of these there may not have been such repeated and minute investigations of the symptoms during the life of the patient as to justify us in denying the presence of all indications of disease save those mentioned,—still it is probable that some of them afford strictly accurate records of all the dyspeptic ailments that have preceded the fatal attack. And hence it is very possible that the numerous cases in which more or fewer of the above symptoms are not recorded, include instances in which they were really absent.

"But much more trustworthy evidence of such irregularities in that train of symptoms which characterises gastric ulcer, is constantly being brought under my notice in hospital practice. As might be expected, a moderate haemorrhage readily escapes the notice of both the patient and his medical attendant. And even where the former habitually inspects the stools, or the physician calls in the aid of the microscope to an examination of any suspicious egesta, the irregularity of its occurrence may baffle all attempts to verify it for months together. In like manner, the vomiting seems to be sometimes (though much less frequently) absent from the history of the malady, during a great part of its course, or merges into a trifling regurgitation after meals, such as we hardly dare consider its representative.

"Indeed, a careful consideration of the details already brought forward affords a tolerably complete explanation of many of the most anomalous features of the disease.

And there can be little doubt that the relief generally afforded by the recumbent attitude is in great part due to the perfect rest it implies. The pain is also affected in a special manner by various kinds of food. As already mentioned, its worst access or paroxysm generally has a close (though not exact) correspondence with that period of gastric digestion during which the organ is most distended with food. It is increased by the ingestion of hard or indigestible substances; and is mitigated by a pulpy milk diet. There are also many articles of food which have an irritating effect quite independently of their consistence. Amongst liquids few are more generally unbearable than ordinary tea and beer. Finally, all hot substances are usually productive of great pain. Lastly, in the young female subject of gastric ulcer, the pain often appears to be affected by the access of menstruation.

malous cases of ulcer of the stomach at present on record. It is true that we are not entitled to assign any exact limit to the degree in which obscurity or absence of the preceding symptoms may render latent the lesion they usually announce. But their slow succession in a majority of cases might alone prepare us for their absence in a minority. The delay of this or that particular symptom may not only deprive us of the (multiplied and not merely added) probability it contributes to our diagnosis, but may merge two or more stages of the malady into one, or may even reverse their order of sequence. The lesion itself may be fatal at any period of its progress; and if thus fatal, it is obvious that the casual delay of any symptom—perhaps for a period not greatly exceeding that of the interval which generally precedes its being added to the previous symptoms—would be scarcely tantamount to its specific absence, even though it might, as a matter of mere narrative, never have occurred.

"It is in obscure and uncertain cases of this kind that it is most important for us to be thoroughly acquainted with the whole characters of the disease, as shown in its more chronic and typical forms. The pathology of the lesion in general must supply any casual deficiencies in the physiognomy (so to speak) of the particular instance. Above all, we must remember that it is our first duty to be useful; and that suspicions which fall far short of a definite diagnosis, may yet be sufficiently important to dictate the whole plan of treatment. Suppose, for example, that we are consulted by a patient for protracted or severe dyspepsia, which has seriously affected the general health, and is associated with pain and tenderness in the epigastrium, and pain in the interscapular region, increased or provoked immediately after the ingestion of food. If, on further inquiry, it turns out that this pain is especially called forth by proteinous substances, or by hot liquids, and that it is affected as above described, by movement, rest, and posture, there can be little objection to our keeping steadily before us the possibility of a gastric ulcer. Such a suspicion, it is true, guides us to a specific course of treatment: but that treatment involves neither pain nor danger of any kind, and scarcely more severity of diet than many a dyspeptic sufferer would gladly submit to in order to secure the removal of his distressing symptoms. If unfounded, it does no harm; but if well founded, it effects incalculable good. Indeed, it is hardly too much to say that, by treating such cases as ulcer of the stomach, we may often cure what we cannot diagnose; and may thus far witness a triumph of the Art over the Science of Medicine—if one may venture on such a paradox—which the most laborious pathologist would scarcely be sorry to see more frequent than modern research generally allows it to be.

"These remarks will especially apply to such symptoms when they occur in connection with amenorrhœa in young females who have lately attained the epoch of puberty. Here the absence of haemorrhage, and the little attention such persons habitually give to mere dyspeptic symptoms, often conspire to obscure the diagnosis: even while a careful inquiry into the history of the malady, and a sedulous examination of the epigastric region, together afford us only too much reason to suppose that the patient is in imminent danger of death by perforation of the stomach."

In reply to the second question—*with what diseases is gastric ulcer most likely to be confounded?*—he says, “this question could only be fully answered by details of cases such as I cannot here adduce. Dyspepsia, chronic inflammation, ‘hypertrophy’ and cancer of the stomach, disease of the duodenum, gall-stones, abdominal aneurisms, enteric tuberculosis, and a variety of other diseases too numerous to mention, may all present degrees of resemblance to gastric ulcer, which the variable symptoms of this lesion render much more suggestive of error than is the case in the maladies of many other organs.

“The above observations render it unnecessary to dilate upon the means by which we should generally distinguish between dyspepsia and gastric ulcer. In a great majority of cases, there is little difficulty in deciding which of the two maladies is present. But in some cases the distinction is by no means easy. And there are good reasons for conjecturing that of all the Protean forms which dyspepsia may assume, that called the morbid sensibility of the stomach is the one which is most likely to include cases of ulcer; or, in other words, if really independent of this lesion, is most likely to be mistaken for it.

“Of all the other diseases just enumerated, there is none in which the resemblance to ulcer is so close, and a definite opinion respecting the latter disease so important, as in the case of cancer of the stomach. Hence we may enumerate (though we cannot fully discuss) the chief considerations on which their differential diagnosis would generally depend. The cancerous disease especially affects the epochs of middle and advancing life. Its symptoms rarely date from more than twelve or eighteen months prior to the death of the patient. It is associated with the cancerous cachexia; often with cancerous disease of other organs. In many cases it forms a hard but moveable tumour in the epigastrium. Its pain generally has a more lancinating character, and a time of appearance that belongs rather to the later stage of gastric digestion than to the few minutes that succeed deglutition. Its haemorrhage is more scanty; and, on the whole, later in the history of the malady. Its vomiting is also generally late; rarely of many months’ continuance; and expels what the microscope will often show to be cancerous cells. But unless unusually distinct, scarcely one of these characters possesses much independent value. The gastric ulcer is frequent in middle and advancing life. It may destroy life in a few days or weeks. It is often associated with cachexia; which, again, is sometimes quite undistinguishable from that of cancer. It is not unfrequently accompanied by pulmonary disease, such as can tolerably simulate secondary cancer of the lungs. The lymph by which an ulcer adheres to the liver or to other viscera may give rise to a tumour which can be felt through the wall of the belly. Its pain may affect a lancinating character, and be deferred until some time after meals. Its haemorrhage may have the moderate amount, and the ‘coffee grounds’ appearance, ordinarily seen in that of cancer. And unlikely as it may seem that many of these separate and infrequent contingencies should combine to obscure the diagnosis of any single case, such instances do really occur. Once or twice I have myself met with cases of this kind, in which there was nothing to justify any definite diagnosis between the two diseases, and in which the mode-

rate ulceration detected months before death has offered no symptoms during the whole time which could warrant its being definitely diagnosed as malignant or the reverse."

Clinical Lectures on certain Diseases of the Urinary Organs, and on Dropsies. By R. B. TODD, M.D., F.R.S., Physician to King's College Hospital. (12mo, Churchill, 1857, pp. 435.)

These lectures, like Dr. Todd's former lectures, inculcate many cardinal points in the diagnosis, treatment, and pathology of hæmaturia, fatty and waxy disease of the kidney, dropsy after scarlet fever, acute renal dropsy, cardiac dropsy, ascites, gouty kidney, gouty inflammation of the bladder, and gout, and they are preceded by some excellent remarks upon the importance of clinical study, and the best mode of conducting it. Lectures of this kind are especially interesting and very useful to those who hear them; but they are for the most part too desultory for those who have not had this advantage. At the same time it is not possible to read the lectures of a really good man, like Dr. Todd, without acquiring many new ideas. We will take, for an example, what is said upon the *gouty kidney*.

Dr. Todd thinks that a knowledge of the real nature of gout, and of its kindred malady, rheumatism, is at the very foundation of all sound pathology, and he then gives a case of what he calls the "gouty kidney" in exemplification. The case is this:

CASE.—Eliza R—, æt. 40, admitted June 5th, 1846; married, and has had two children, the last being now fifteen years of age. Latterly she had led a very irregular and intemperate life, as a prostitute. She stated that she never enjoyed good health, and had especially suffered from repeated attacks of rheumatic gout, affecting all her joints, large and small. These were, no doubt, increased in frequency and severity by her habits of intemperance.

Three months before admission she had her last attack of rheumatic gout. Shortly after this she observed her legs beginning to swell, as well as her abdomen. The swellings having increased considerably, she sought and obtained admission into the hospital.

Her appearance was strikingly indicative of that extreme disturbance of the general health and constitution which is always produced by the long continuance of gout in the system. There was an unhealthy sallow hue, with an anxious expression of countenance. Her eyelids were swollen, as also her cheeks: the facial dropsy, although sufficiently distinct, was not excessive. Her feet and legs were also oedematous, and pitted distinctly on pressure.

There was considerable swelling of both knee-joints, caused evidently by an effusion of fluid which distended their capsules. The patient complained very much of pain in both these joints, especially the right, which was the most swollen.

Most of the small joints, particularly those of the fingers and toes, were swollen from old attacks of gout, the swelling apparently being due to a thickening of the fibrous tissue;—some of them grated on moving the surfaces upon each other, indicating the absorption of their cartilages, and the probable deposition of lithate of soda in their place.

You will remember that I stated more than once, at the patient's bedside,

that I thought it very likely that a similar change—namely, absorption of the articular cartilages and deposition of lithate of soda, had taken place in the knee-joints; and that the articular surfaces of the femur, tibia, and patella on each side would be found thus affected.

The abdomen was not enlarged, nor dropsical. There was no evidence of enlargement of the liver. On the contrary, everything favoured the opinion that this organ was in some degree contracted: the intemperate habits of the patient, the sallow hue of her skin, a slight dilatation of the abdominal vein, and the absence of dulness on percussion over the right hypochondriac region, served to excite suspicion as to the existence of a degree of cirrhosis of liver, and justified our expecting abdominal dropsy if it proceeded further.

The heart was likewise evidently affected. We had proof of this in the augmented impulse of the organ, and the increase of dulness in the cardiac region: and on placing the stethoscope over the heart's apex, a loud bellows-sound was heard synchronous with the systole of the ventricle. To the right of the heart's apex, and along the aorta, this sound became less distinct, and vanished altogether as the stethoscope was passed up the aorta. It was, however, very audible beneath the angle of the left scapula. The pulse was small and weak, and its frequency 100. These signs indicated some hypertrophy and dilatation of the left ventricle, with imperfection of the mitral valves.

The urine was not materially altered in quantity, being sometimes below, sometimes above the normal amount: its specific gravity was 1012; it was clear and pale. By heat and nitric acid it yielded a slight precipitate of albumen.

* * * * *

The treatment adopted in Eliza —'s case immediately after her admission, consisted in the application of a blister to the right knee, which was most swollen, mild purgatives, and a bitter tonic (*Inf. Quassiae*), with ammonia.

On the 19th of June it was reported that she had improved considerably; the swelling had been much reduced, the urine was natural in quantity, slightly acid, specific gravity 1010, without sediment, and it contained a small quantity of albumen.

On the 20th of June there was a sudden decrease in the quantity of the urine, and on that day she was seized with a fit of epileptic character, inducing loss of consciousness and convulsions: the fit lasted some minutes, and on coming out of it she continued in a stupid drowsy state for some time. The small quantity of urine passed was not kept for examination. A mustard poultice was applied to the back of her neck, and this was succeeded by a blister.

On the 21st, at 2 o'clock in the afternoon, she had another fit, more severe than the last. In it she was much convulsed, and bit her tongue severely. The fit lasted a quarter of an hour, during which time she was so unconscious that on her recovery she was not aware that she had had a fit. Her water and motions were passed involuntarily.

On the 22d, it was reported that she had had two severe fits since the preceding day. She complained of occasional severe lancinating pains in the abdomen. There was some dyspnœa. Respirations 20; pulse 112. She has been very delirious. Micturition very defective. On the following day she died.

This is a common mode of termination for those diseases of the kidneys which either by encroaching on the proper structure of these organs, or by any other means, materially diminish their secreting power; and the most probable explanation of this phenomenon is furnished by the fact, that as the proper constituents of the urine are not duly eliminated, they accumulate in the blood, and disturb the brain, giving rise to epilepsy, delirium, and coma.

The post-mortem examination presented many points of extreme interest.

The heart was somewhat increased in size, from slight hypertrophy and dilatation of both ventricles. This morbid state of it was due to the imperfection of the mitral valve caused by deposits upon its margin, which prevented the perfect closure of the orifice. It was the regurgitation through this orifice, which remained open during systole, that occasioned the bellows-murmur heard with the first sound of the heart.

The liver was hardened and condensed in structure, and somewhat reduced in size. Its secreting lobules were not materially altered, but the capsule of Glisson, on the external surface of the gland, as well as the prolongation of it into the larger portal canals, was much denser and thicker than natural. This tissue seemed to have been the seat of a morbid process, which probably was produced partly by the intemperate habits of the patient, but partly likewise by the share which the liver had in the elimination of the morbid poison of gout.

The most interesting morbid changes, however, were found in the kidneys and in the joints.

The kidneys were very much contracted in size; they retained hardly, indeed, so much as one third of their natural dimensions. They had upon their surface a shrivelled granular appearance. The capsule appeared denser and whiter than natural, and separated with great facility from the surface of the gland. On cutting into the kidney it appeared that the decrease in its size was at the expense chiefly of the cortical substance, two thirds of which must have disappeared. The cut surface presented much the same granular appearance as the external surface of the gland.

Upon examining portions of these kidneys under the microscope, I found several tubes much dilated, and furnished very scantily with epithelium; others were completely empty; and others, again, collapsed and folded into fine plaits, which gave them the appearance of fascicles of fibrous tissue. A transverse section served to display very well the dilated tubes, showing likewise how small was the quantity of contained epithelium, and how little interlobular tissue there was likewise. Here and there a tube contained at one point, at the bend of a convolution, a few epithelial cells filled with fat; these were, however, few in number, and in many parts the tubes appeared healthy. Those in the pyramids were for the most part healthy.

These appearances are distinctly indicative of a wasting or atrophy of the gland. Many of the blood-vessels are obliterated; the portions of the gland which these supply waste; the epithelium in them is formed scantily, or not at all; the tubes collapse, and are folded into plaits, giving the appearance of newly-developed fibrous tissue.

Dr. Todd then proceeds to say that he would give the name of "gouty kidney" to this state of kidney when it is associated, as it frequently is, with a decided gouty diathesis; after this, he adds:

"To what extent the changes which have taken place in it are due to inflammation, or how far simple inflammation, untainted by any morbid matter in the blood, is capable of producing similar alterations, I do not undertake at present to decide. Rayer has recognised the small and contracted kidney as the result of chronic inflammation, and it has been viewed in this country chiefly as the last stage of Bright's disease. This latter interpretation of it, I now feel convinced, must be erroneous.

"As to the diagnosis of this disease, we may gather the principal points which will assist us, from the history of this and the other case to which I have referred.

"The patient is evidently of gouty habit, as evinced by general signs and by his family history, by his habits of living, and by his having had, to a greater or less extent, attacks of gout in his limbs. There is more or less of dropsy, although this is by no means a necessary symptom, neither is the dropsy so general nor so great as in Bright's disease. The quantity of urine is not, in general, diminished, but, on the contrary, is either normal or increased; and it is pale, of low specific gravity, and deficient in the organic principles, whilst it contains albumen *in small quantity*. The sedimentary matters found in the urine are not, comparatively, in large quantity. Lithates are among the rarest in occurrence; indeed, when the disease is fairly established, I should say that lithates or free uric acid are not found in the sediment. Granular casts of uriniferous tubes, waxy casts of the same, generally of large size, altered epithelium, now and then fatty epithelium, and cells which are those of pus or allied thereto—these are the ingredients of that whitish, mucoid deposit which you will always find to collect at the bottom, when the urine secreted by this kind of diseased kidney is allowed to stand in a tall conical glass for a few hours. Now and then, when an acute attack of gout threatens, or has occurred, or bronchial irritation is present, you may have lithate sediments in great abundance; but in the advanced stages blood-corpuscles and pus-cells are apt to occur.

"Under these circumstances, the particles of pus, I apprehend, do not come from the kidneys, but from the mucous membrane of the infundibula and pelvis of the kidneys, and the ureters, over which the acrid gouty urine flows."

II.

REPORT ON THE PROGRESS OF SURGERY.

Report of seven cases of Transfusion of Blood, with a description of the Instrument invented by the Author. By ALFRED HIGGINSON, Esq., Consulting-Surgeon to the Liverpool Dispensaries. ('The Liverpool Medico-Chirurgical Journal,' Jan., 1857.)

Judging from cases in which blood has been transfused during the last few years—now more than fifty in number—the effects of the operation have been such as to place its power and utility beyond question; but much yet remains to be known, and many prejudices have yet to be removed, and on this account we are glad to have any additional evidence on the subject. We are glad, also, to hear of a plan which seems to do away with some of the difficulties which belong to the operation itself.

Instead of using a syringe, Mr. Higginson receives the blood in a funnel, and allows the blood to flow through a tube into the vein. He has, indeed, contrived an instrument which is represented in the accompanying diagram.

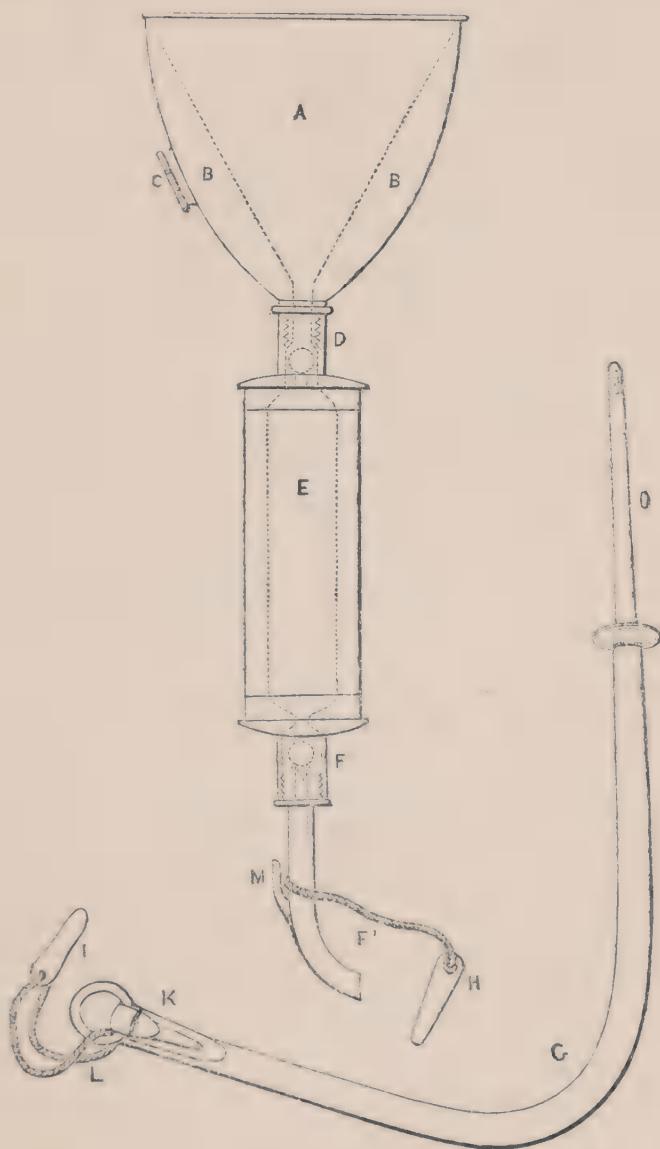
The mode of using the instrument is described as follows:

"To prepare for operating, take a washhand basin nearly full of hot water, not less than 100° , and immerse in it the instrument and tube. Take out the screw, C, and fill the cavity, B, with the water, then replace the screw. Fill the tube, G, with water through the opening at K, and insert plug, I. The tube may then be carefully handled without displacing the water, keeping it as horizontal as is practicable.

"Now find the best vein in the patient's fore-arm, let half an inch of it be fairly exposed, and pass a probe or needle under it at the lower end of the incision; then make a fair opening, and pass the metal pipe, O, an inch or more into the vessel, in the upward direction. It is the entire duty of an assistant to retain the pipe in the vein, and prevent all motion of the patient's arm. The vein from which the supply is to come may now be opened, the arm being brought conveniently over the cup, A, which is so held by the operator as to bring the openings, F and K, still closed by the plugs, into proximity. The right hand of the operator supports the instrument, holding it by the barrel, E, and by compressing it gently a few times, the air is expelled and the barrel filled with blood. The cup should be at

least half full before joining the tubes, which must be quickly done in the following manner.

"Take the ring, L, between the thumb and fore finger of the left hand, the middle finger supporting the tube, G, immediately underneath the opening, K. Let an assistant gently remove the plug, I.



A is a metallic cup, of 6 oz. capacity, to receive the supply of blood. B an outer casing, which will hold 5 oz. of hot water, introduced through an aperture at C. D is a passage leading into an elastic-barrel, E, composed of vulcanized India-rubber, of which the capacity is 1 oz. F' the exit for the blood into the injection-pipe, G. At D and F there are ball-valves, capable of closing the upper openings when thrown up against them, but leaving the lower openings free. The blood, or other fluid, poured into the cup, A, has free power to run unobstructed through D, E, F; and therefore a small plug, H, is provided for the purpose of closing the lower aperture, F, when necessary. The tube, G, is of vulcanized India-rubber, and terminates in a metal tube, O, for insertion into the vein.

Bring the pipe, F, into a line with K, and let the plug, H, be withdrawn. While the blood immediately escapes from the orifice, insert the metallic tube, F, into the opening at K, and pass the ring on to a small stud, M. The adjustment is now complete, and transfusion begins.

"One assistant must confine his attention to the patient's arm, another to the supply, whilst the operator watches the blood in the cup, and grasps the elastic barrel or not, as may be required, to propel the blood onward, but never letting it sink so low in the cup as to draw air into the barrel. When the stream is well established, the instrument acts for a time by gravitation simply, requiring no assistance from the hand of the operator. In this case only an approximate estimate of the quantity of blood injected can be formed; whereas, in the other mode, we know that six drachms are sent out at every complete grasp of the hand. Observation at the time must show when enough blood has been transfused; but the probability is that, unless done quickly and continuously, coagulation will bring the process to an end, without a choice on the operator's part. More than twenty ounces have been injected, in one case, by this instrument, without difficulty. The injection of air seems to be absolutely avoidable by its use, whereas with any ordinary piston-syringe this is not the case, for the air may pass by the side of the packing. To clean the instrument all the parts are to be unscrewed, and care should be taken that the ball-valves are not washed away with the coagula.

"If on any account it should be wished to stop the influx of blood for a few moments at a time, during the operation, it is best done by pressing the pipe, C, between the finger and thumb. The recommendation to pass a probe beneath the vein is not lightly given, for I have found it of very great service."

In five out of seven cases recorded below, transfusion may fairly be said to have been of use. The cases are these:

CASE 1.—*Extreme prostration, from protracted suckling of twins.*—Mrs. C.—, æt. 33, when in her fourth pregnancy, suffered severely during the last three months from ascites and anasarca. She was confined of twins, July 7th, 1847. Both lived, and she suckled them successfully, notwithstanding her previously enfeebled condition. At the commencement of 1848, however, she was ordered to wean them, but could by no means be prevailed on to do so. In March, it was evident that she had exhausted herself greatly by over-suckling, and a chronic diarrhoea had set in. On the 12th of March, she rejected everything taken into the stomach, and fainted when raised from her pillow, though quite conscious and free from suffering when in the horizontal position. The medical friend who saw her with me, had no further remedies to suggest than those I had previously tried without avail. When I proposed transfusion, he said, "Any one else would let her die; but if you determine upon transfusion, make your arrangements, and I shall willingly help you." A few hours later found her unimproved, and two medical friends assisted me to operate, our decided conviction being that unless we did so she would die during the night. The supply of blood was given by a healthy female servant. It was estimated that twelve ounces were injected, and a state of quietude succeeded to the somewhat restless condition preceding the operation. The pulse was improved, and she seemed sleeping. But in a few minutes the patient was seized with a rather severe rigor. It did not last long, but led to a state of reaction and excitement, in which she sang a hymn

in a loud voice. Afterwards she had some refreshing sleep, and during the night took nourishment. She improved steadily, and went into the country ten days afterwards. On her return, though still pallid, she expressed herself as better than she had been for years. She died three years afterwards, of phthisis of six months' duration. This patient told me after the operation that she had felt in a marked degree the reviving influence of the new blood. She fell into a pleasant dream, and was not aware of the occurrence of the rigor, nor of her vocal exertions.

CASE 2.—*Hæmorrhage after birth of child, on expulsion of placenta.*—December 7, 1850, Mrs. —, the private patient of a medical friend, who called me in to transfuse, had had several previous good confinements. On this occasion the child was born without anything worthy of remark, except that the funis was extremely short. Internal hæmorrhage took place before the placenta could be removed, and the one large gush which then occurred so completely prostrated the patient, that in consultation with another surgeon, transfusion was decided upon, and no time lost. The lady's sister supplied the blood, and between ten and twelve ounces were easily injected. The benefit was immediate and striking, and no bad symptoms retarded her recovery.

CASE 3.—*Hæmorrhage from placenta prævia; fœtus retained.*—Feb. 7, 1851, Mrs. —, mother of a large family. Placenta prævia had led to sudden and exhausting hæmorrhage. Two attending practitioners had decided on transfusion, and I was sent for. The placenta had been removed—the child's head occupied the os uteri, and hæmorrhage was over. The patient, however, was much sunk, and did not rally by stimulants; the skin was of a livid hue, as in the asphyxiated stage of cholera, and appearances were very unfavorable. A female servant gave the blood, and six or eight ounces were easily injected, when a sudden jactitation of the patient jerked her arm from my assistant's grasp, and drew the pipe out of the vein. Before re-adjustment could be effected, coagulation in the instrument took place, and as no amendment was observed the operation was abandoned. She died within half-an-hour, undelivered.

CASE 4.—*Hæmorrhage from adherent placenta; uterus empty, hæmorrhage ceased*—September 12, 1851, Elizabeth Eburn, æt. 37, was delivered of her sixth child, at the Lying-in-Hospital, of this town. An adherent placenta, which had given rise to much hæmorrhage, had already been removed, when I was requested to transfuse the patient. No more blood was lost. A servant supplied the blood for the operation, and twelve ounces were injected. The patient lived seven days, but gradually sank. Post-mortem inspection showed the uterus to be internally purulent and offensive. The internal organs were all anaemic, but free from disease. There was no disease of the veins, either in the uterine region or in the arm where the puncture had been made.

CASE 5.—*Partial placenta prævia; hæmorrhage before delivery.*—The case was one of placentia prævia, in which partial separation had taken place, and there had been great hæmorrhage: the woman appeared sinking, but neither fœtus nor placenta was yet expelled; hæmorrhage, however, had ceased. The case occurred in one of the worst localities in the town, and two neighbouring women, who were willing to supply blood, had each a vein opened. The blood, however, was dark and sluggish in both instances, and produced scarcely any effect, not more than five or six ounces having entered the patient's body. In consequence of its unfit condition, warm water with a little common salt was then injected to about twelve ounces, slightly improving the circulation. Delivery was then speedily effected, but life was extinct before this was fully accomplished.

CASE 6.—Mania; refusal to take food; exhaustion; approaching collapse.—On November 10, 1856, I was requested to transfuse a patient in the work-house hospital. T. C., aged 21, a girl of loose character, had attempted self-destruction, and was admitted in a state of violence requiring restraint. She had a copious and offensive expectoration. The only period of consciousness was a very short one following the administration of a shower-bath. For nearly a fortnight she refused food, and her jaws were firmly closed. Notwithstanding efforts to nourish her, by enemata and the stomach-pump, she became more and more feeble. When I saw her, the pulse had disappeared from the radial arteries, and almost from the temporal. In the brachial it was feeble,—130. Respirations twenty-six per minute. Surface and extremities wanting in heat, but the thermometer in the axilla stood at 94°. Eyes very much sunk, up-turned, lids closed, and with a peculiar dark marginal ring. No sign of consciousness, but a constant painful and shrunk expression of face. Transfusion being determined upon, a good supply, of rather dark blood, was obtained from a female, and the injection commenced. Pulsation returned at times in the radial arteries, and then again became indistinct, but the breathing improved, and the expression of countenance was much better. Twenty ounces, or more, were injected. A little wine and water was swallowed during the night, and the following day she put out her tongue when told to do so, and appeared better. The offensive expectoration continued, and there seemed a difficulty in swallowing. Symptoms of sinking again came on during the second night, and she died about forty hours after the transfusion.

An examination of the body on the following day, showed effusion of serum on the surface of the brain, to the extent of several ounces, a degree of opacity of the arachnoid membrane between some of the convolutions, and considerable fulness of the vessels of the pia mater. The substance of the brain was firm and good throughout. The upper lobe of the left lung adhered firmly for a considerable space to the parieties of the chest, and when torn away, showed that a series of small cavities had been opened, offensive purulent matter escaping abundantly. The substance of both lungs was more dense than natural, varying from a state of simple congestion to that of cedema, and almost of hepatization. There was no tubercular disease. The heart, and other organs, were free from morbid alteration of structure, but contained dark fluid blood.

CASE 7.—Placenta prævia; delivery and subsequent draining; transfusion, and rally of the patient; returning of flooding, death.—Mrs. J., æt. 36, the mother of a family, was daily expecting her confinement, and had a presentiment that she should not recover. Her medical attendant looked in almost daily, and had visited her early in the day, on November 24th, when she was as well as usual. At eight p.m., he was called to her on account of haemorrhage, and found that, in two gushes, she had lost a pint and a-half of blood into the chamber-vessel, besides some draining upon the bed-clothes.

Placenta prævia was recognised, and I was with the case, in consultation, at ten o'clock. The patient's condition permitting, and the os uteri being dilatable, turning and delivery were accomplished, without any difficulty, in about half an hour. The placenta immediately followed the child, which was still-born. No considerable loss of blood was sustained, the uterus seemed fairly contracted, and the binder and compress were applied. Considering all danger past, I left the patient under the care of her attendant, at about midnight. At half-past one, a.m., she became faint and restless, from draining, rather than from any violent discharge. All proper remedies failing to

arrest the sinking, transfusion was resorted to, at about three o'clock. Twelve ounces were injected, with immediate good effect, indeed the patient rallied completely. Hardly fifteen minutes elapsed, however, before the patient drew attention to the return of the flooding. Irregular contraction of the uterus had thrown the posterior part of the cervix into prominence, as if a tumour existed in its walls; but this vanished as the organ became flaccid from loss of blood. There was a period of this second sinking, at which re-transfusion might have availed, but no supply was to be had. She died at six a.m. Possibly a post-mortem inspection might have shown some cause for the recurring haemorrhage, but it was not obtained. The placenta and membranes came away all together, without trouble; the former showing merely one clean division from centre to edge, through which the hand had passed.

1 Treatise on Cancer and its treatment. By J. WELDEN FELL, M.D., of the University of New York, late Resident-Fellow of the New York Academy of Medicine, &c. (8vo, London, Churchill, p. 95, 1857.)

Under a pledge that the full particulars of his system of treatment should be published within a given period, and having first, in confidence, communicated to the surgical staff the nature of the remedies employed by him, the method of their preparation, and the mode of using them, Dr. Fell has been permitted to treat a certain number of cancer cases in the Middlesex Hospital, and the present work is the redemption of his pledge. The work is very short. In it the author glances over the varieties, the causes, and the means of treatment already employed in the treatment of cancer; and having expressed his opinion concerning these means, by saying, "that they almost all fail, and that most of them are not only useless, but absolutely injurious," he proceeds to assert that the *sanguinaria canadensis* is the real remedy both for removing the external manifestations of the disease, and for eradicating the constitutional taint. This is a perennial plant, which is used by the North American Indians on the shores of Lake Superior for the cure of cancer and similar diseases, and is commonly known among them under the name of *puccoon*. The name *sanguinaria canadensis* is derived from the blood-red juice which exudes when cut or bruised. It grows in great abundance in the wild forests and plains of the far west, and in many parts it covers the ground with its large white blossoms. The *puccoon* appears to have a place in the pharmacopœia of the United States, as a powerful emmenagogue, emetic, and alterative, when given internally, and as an escharotic when applied to fungous growths.

"The first experiments," says Dr. Fell, "made with the *puccoon*, were upon ulcerative surfaces, and although requiring months of continued application, yet the removal of the tumour was effected, and the patient cured. It was then combined with various substances, with a view to hasten its action; but none appeared to do so well as the chloride of zinc, for, with this compound, large ulcerated tumours were removed in a few weeks with comparatively little, and in many cases no pain; at the same time obtaining by absorption and by the internal use, all the good effects of the *puccoon*.

"The next object was to adapt the treatment to non-ulcerated tumours; and, as a preliminary step, the cutis was destroyed by nitric acid, and the paste applied; but it was found that the eschar produced by each application was so thin, that it would require a long time to remove a large tumour.

"Incisions about half an inch apart were then made through the eschar, avoiding the living tissues, and the paste spread upon strips of cotton inserted into them daily; this plan succeeded admirably, and is *believed to be entirely original*.

"It was also found that although the action of the puccoon was much hastened by the addition of the zinc, yet it was slow enough to allow its complete absorption, thereby enabling it to exert its peculiar constitutional effects, and at the same time removing the diseased mass in a few weeks.

"The compound generally used is prepared according to the following formula:

R. Sanguinariæ Canadensis, $\frac{3}{ss}$ vel $\frac{3}{j}$;
Chlor. Zinci, $\frac{3}{ss}$ vel $\frac{3}{ij}$;
Aquaæ, $\frac{3}{ij}$;
Pulv. Sem. Tritic. Hibern., q. s.

Mix, and form a paste the consistence of treacle.

"Sometimes the sanguinaria is used in the form of a decoction, by boiling it down in water from four to two ounces: in this case no water is used in mixing the paste.

"The proportions of the sanguinaria and zinc are varied in different cases according to the effect produced.

"This is spread upon strips of cloth, cotton, or wool, and inserted daily into the incisions; generally in the course of two to four weeks the disease is destroyed, and the mass falls out in the course of ten or fourteen days afterwards, leaving a flat healthy sore, which generally heals with great rapidity. This treatment refers chiefly to those cases that are well marked, or that have made some progress in their destructive career; but we often meet with other cases of an incipient nature, where the disease, although fully developed, is still in a quiescent or dormant state. In such cases I often accomplish a cure by means of absorption, giving no pain to the patient, and not injuring or removing any important part, as the breast, which must occur if the first mode of treatment is resorted to. Not only is this of use in incipient cancer, but I have seen it of much use when applied to the lymphatic glands, which had become secondarily affected. In such cases, I remove the part primarily affected, *en masse*, by means of the sanguinaria paste, applying at the same time the following ointment spread upon cotton over the enlarged gland or secondary tumour. This ointment is composed as follows (and called the brown ointment):

R. Sulph. Zinci, $\frac{3}{vj}$;
Sanguinariæ, $\frac{3}{ij}$;
Myricæ Ceriferæ, $\frac{3}{j}$;
Extr. Opii (aquos.),
Ext. Conii, aa $\frac{3}{vj}$;
Ungt. Cetacei, $\frac{3}{vj}$.

Mist. et fiat ungt.

"In conjunction with this preparation, I use an ointment of the iodide of lead, generally applying each twelve hours alternately. The following is the formula I use :

R Iod. Plumbi, 3j;
Glycerine, 3j;
Ungt. Cetacei, 5ij.

Fiat ungt.

"With a steady persevering use of these two ointments I have often dispersed incipient tumours, which I have no doubt were cancerous.

"These are the external means of treatment I employ, which, although in themselves eminently successful, yet I am not content with them alone, but also pay particular attention to the general health, ordering a nourishing and sustaining diet, besides giving internally the puccoon in small and repeated doses. A remedy that exerts so much influence when applied externally, must be exhibited with caution, I therefore seldom exceed half-grain doses, three times daily. This is given in the powder or decoction; in the former cases I give it either alone or combined with the sixteenth or twentieth of a grain of the iodide of arsenic, and one grain of the extract of cicuta made into a pill; or, if given in decoction, I generally combine it with the fluid extract of taraxacum.

"The ointment of the sulphate of zinc I have been in the habit of applying, with marked success, in cancer of the womb. Unlike the Vienna paste, it can be applied not only with safety, but with impunity, as it does no injury to the adjoining tender parts.

"I have also used these preparations with marked benefit in cases of lupus, both exedens and non-exedens; indeed, I have never known a case in which the judicious use of these remedies has failed.

"Indolent ulcers have long been an opprobrium to the profession from their intractable nature; in such cases, these applications are most efficacious, as I have known phagedælic and indolent ulcers of long standing to be speedily and permanently cured in the course of two or three weeks. In such cases I have often accomplished a cure by using the sanguinaria alone, but even then I find much benefit in using the combinations as described in the above formulæ."

Such, then, being Dr. Fell's statement of his own case, the doubt naturally and necessarily arises as to the efficacy of the supposed remedy. Can, it may be asked, the *sanguinaria* be combined with the chloride of zinc without suffering decomposition? Is the chloride of zinc inoperative? These are questions which require very grave consideration, and in the mean time we may ask, what are the results of the treatment. Does it cause less pain? In answer to this question, the surgeons of the Middlesex Hospital say in their report, "that all the patients have suffered pain during the treatment; some have spoken lightly of their sensations, others have complained much. No one, however, has sustained that acuteness and severity of pain which characterises the action of caustics, as ordinarily employed; and it has been observed that the pain which has been felt has usually been referred, not to the tumour itself, but to parts at some distance from it, as, in the case of the mamma, to the shoulder and arm." Is it more like to prevent relapse? Upon this point Dr. Fell says, that out of

every ten cases treated by the poultice, only three have exhibited fresh signs of the disease; whereas from eight to eight and a fraction have exhibited these signs within this time where the disease has been removed by the knife. Evidence on the subject, however, is wanting, for of the few cases given, the first is only dated July 9th, 1855.

On the treatment of Aneurism by Manipulation. By WM. FERGUSSON, F.R.S., Professor of Surgery in King's College, London, &c. ('Lancet,' 15th Nov., 1857.)

A case of subclavian Aneurism treated in this manner. By ROBT. LITTLE, Esq., of Lifford, County Donegal. ('Med. Times and Gaz.,' 23d May, 1857.)

1. This mode of treatment was brought before the Royal Medical and Chirurgical Society in November last, and the short abstract of Mr. Fergusson's paper is as yet all the information which we possess respecting it. As defined in this abstract, the term is intended to mean a peculiar forcible squeezing of an aneurismal tumour, with the intention of breaking up the fibrine supposed to be within, so that, being displaced, this fibrine might possibly block up the distal end of the tumour, or the artery leading from it. Then after sketching the various means whereby Nature is supposed to bring about occasional spontaneous cures, and referring to certain cases which had come under his own observation in which spontaneous cures had seemingly been caused by displaced fibrine, Mr. Fergusson proceeds to show that, whilst surgeons had in some degree followed the dictates of Nature, as gathered by experience, in their attempts at cure, they had not, as far as his knowledge went, attempted to imitate the actual displacement of fibrin by any active interference on their part. He then explains how he had for many years entertained the idea that a cure by such a plan might possibly be effected. After many years' watching for a case where, for want of a better plan, such a one as he indicated might be used, a case of aneurism of the right subclavian artery, between and outside the scaleni, came under his notice in February, 1852, wherein, appreciating all the known danger of the usual modes of treatment, he resolved to try this plan. The flat point of the thumb was laid on the aneurism, which was about the size of a hen's egg, and when the sac was emptied of fluid blood, the lower surfaces and supposed contents were rubbed against each other. The pulse, which had been carefully examined, was immediately arrested in all the vessels below the aneurism, and the patient became faint and giddy. In six or seven hours, the pulsations returned, but he repeated the manipulation the next day, with a similar but non-lasting effect on the circulation in the arm; for it was not until seven or eight days that circulation could be readily detected in the arteries of the forearm. The tumour gradually diminished in size and in force; a pulsation, and various indications, particularly the gradual enlargement of a branch of the subclavian artery at the root of the neck, the suprascapular, or the transversalis colli, gave every hope that a cure was in progress. After seven months, at which date the tumour was much

diminished, the patient had a severe feverish attack, accompanied with excruciating pain in the tumour, and died after a few days' illness. On dissection, it was found that the axillary artery was blocked up, and that the tumour had suddenly extended or given way in the direction of the axillary plexus of nerves, which was supposed to account for the excessive pain. Another case, in most respects analogous to the above, came ere long under the author's notice, and was treated in the same way. A series of phenomena followed, similar in every respect to those observed in the former. The tumour in this case underwent other changes, and ultimately disappeared, between the twenty-second and twenty-fourth month after the manipulations. After discussing the principal phenomena connected with these cases, and expressing an opinion that the results in many respects corroborated the views of the author, he left the particulars for the further consideration of those who felt interested in the subject.

2. Mr. Little's case (which requires no comment) is as follows:

CASE.—Daniel M'Monagle, an Albino, æt. 53, admitted into the County Donegal Infirmary, on the 6th October, 1855, with an aneurism of the right subclavian artery, gives the following history of his case:—States that, having been in the habit of dealing in eggs and fish, which he usually carried through the country in a basket suspended on his back by means of straw ropes through which he passed his arms, he first felt pain in the right arm in the preceding month of March, which gradually became so severe that in the month of May he was frequently obliged to sit down on the road-side and remove his burden for a time. Soon afterwards he discovered a tumour above the right clavicle, directly corresponding to the site on which one of the ropes pressed, which also became painful after a short time; and in the beginning of July he perceived “a beating in the lump,” which then began to enlarge rapidly. In the month of August he says he had such a feeling of drowsiness that for a fortnight he slept the greater part of each day and night, during which time he lost his appetite and took nothing but milk, and at this time he was unable to bend his fingers. Sleep then suddenly deserted him, and he declares that for a fortnight prior to his admission into the infirmary he did not sleep for a single hour, owing to the intensity of the pain in the tumour and along the arm.

Symptoms on admission.—A tumour equal in size to the largest goose egg occupies nearly the entire of the supra-clavicular region, extending from the clavicular attachment of the sterno-cleidomastoid to the acromial end of clavicle, which has a strong pulsatory movement that is visible from the most remote part of the ward, and is accompanied with a loud bruit de soufflet; it is soft and compressible, and is red and somewhat inflamed on the surface, from which circumstance Doctor Greer, under whose notice the patient first came, greatly feared the aneurism would have burst. There is no appreciable dulness on percussion under right clavicle, but the respiratory murmur is not as distinct as on the opposite side; however, this may arise from its being somewhat masked by the loud bruit on that side; the superficial veins of head and neck are considerably enlarged, but he does not suffer either from cough, dyspncea, or dysphagia; tongue tolerably clean, pulse at wrist 80, and regular; appetite not good. His chief source of complaint is a severe and constant pain extending from the tumour down the right arm as far as the tips of the fingers, which he says is most acute about the middle of the humerus, and he is constantly compressing this part with the other hand, conceiving that it gives him some relief. At first he got sedatives, had cold

applied to the aneurism, and each night had a full anodyne, which treatment somewhat moderated the violence of the pulsation, and made him feel more comfortable, and after a few nights when the anodyne had been considerably increased he got some tranquil rest.

In December, he was bled twice from the arm, and ice was kept constantly applied over the tumour for three weeks, without any manifest improvement, except that the redness and inflammatory appearance of the integument covering the aneurism have completely disappeared; in other respects, the symptoms remain unaltered. Having seen the report of Mr. Fergusson's very interesting case, I resolved to follow his suggestion in this apparently hopeless one, and I must confess I did so without any very sanguine expectation of success. Accordingly, on the 1st of January, 1856, by making gentle but steady pressure with my thumbs alternately over the aneurismal sac, I succeeded in displacing some of the coagula, and directing them towards the distal end of the artery. No other local treatment was adopted, but he was ordered the peresquinitrate of iron internally. For the first two days no change was perceptible in either the tumour or the arm; but on the third day the pulse at the wrist was manifestly weaker, and the arm somewhat colder than the opposite one. These symptoms gradually increased up to the tenth day after the manipulation of the sac, when no pulsation could be felt in either radial, brachial, or axillary arteries. The tumour itself had now become more solid, and the bruit and pulsation were both diminished; the violent pain in the tumour and along the arm has also decreased, but now he complains of a sensation of coldness over the right shoulder and scapula, and of a severe pain extending along the side of the neck and back of the head, which increased in severity for a month, and the arm became greatly wasted, and partially paralysed, retaining very little sensation and scarcely any power of motion.

March.—All pulsation in the aneurism having now ceased to be visible, pressure was applied over it.

November.—Both bruit and pulsation have completely disappeared; the aneurism is not more than one-third its original size, and is quite solid; the anterior edge of clavicle feels thin and sharp, from the absorption of its upper surface, caused by the pressure of the sac, and the pain along side of head and neck, heretofore so much complained of, has completely subsided. The arm has regained its natural temperature, and, although still considerably attenuated, he can use it tolerably well, sensation having also returned to it. A very slight pulsatory wave can now be felt in the radial artery, but not in either brachial or axillary. Two superficial arterial branches, of considerable magnitude, can also be traced, running in a transverse direction across the remains of the aneurism, one immediately above the clavicle, the other somewhat higher up.

March, 1857.—Having again admitted the patient into the infirmary within the last few days, for the purpose of examining his condition, the absorption of the tumour is steadily progressing, being now not larger than a walnut. Pulse at the wrist somewhat stronger than at last report, but still not to be felt in either brachial or axillary. Sensation and motion are completely restored to the arm. He is free from all pain, and says he feels perfectly well, and intends resuming his former occupation.

On Ampulation by Caustics. By MM. SALMON and MANOURY, Surgeons to the Hospital at Chartres. (1. L'Union Médicale, September and October, 1856. 2. Gaz. Heb. de Méd. et Chir., December 19th, 1856.)

The authors relate three cases in which a limb was amputated by successive applications of caustic in the lines in which the knife would have passed in the ordinary flap-operation at the part; and they think this method preferable to the knife when there is fear of purulent infection, where the patient is extremely reduced in strength, where there are many recent purulent collections about the part, and in the case of traumatic or senile gangrene. They do not trust, however, to the caustic for dividing the principal artery, but they leave this to the last, and employ the ligature and knife in dealing with it.

CASE 1.—A man, æt. 35, whose right arm had been torn by machinery. Eight days after the operation the parts had become gangrenous, and it became necessary to remove the limb at the shoulder-joint. The lines selected were those of the ordinary flap-operation—the position of the main artery being marked with ink to show where the caustic was not to go. The caustic used was the Vienna paste. A quarter of an hour after the caustic was applied, the eschar was scored with a knife, but not so deeply as to cause pain, and the groove was then filled with a strip of lint, smeared with a paste, consisting of chloride of zinc and alum. In the evening (second sitting) the eschar was broken down and raised with a spatula, and the caustic again applied. The night was sufficiently good, and there was no shivering. On the second day the caustic was applied twice—morning and evening; and so also on the third and fourth day. On the evening of the fourth day, the soft parts being sufficiently divided, a ligature was applied to the brachial artery; and the knife having been applied where it was necessary, the bone was sawn through. Besides this, no further particulars are given, beyond the statement that everything went on well, and that the stump was well formed.

CASE 2.—A man, æt. 30, somewhat intemperate, broke both the bones of his forearm immediately above the wrist. Fifteen days afterwards the parts below the injury had become gangrenous, and amputation was necessary. This amputation was performed immediately below the elbow by twelve applications of caustic, these applications extending over seven days. This was done without any haemorrhage, although the main vessels were divided by the caustic. Five days afterwards haemorrhage was set up, and it was necessary to apply a ligature to the vessel. As to the rest, the recovery is said to have been uninterrupted and perfect.

CASE 3.—This was that of a man, æt. 43, suffering from osteo-sarcoma of the lower extremity of the femur. The tumour was as large as a man's head, and spontaneous fracture of the femur had occurred through the body of the bone. The flap-amputation was performed below the trochanter by five applications of caustic. The patient was admitted into the hospital at Chartres on the 1st of September, and the operation was undertaken on the 4th. In the first instance the lines of the flaps were marked out (leaving the part immediately above the femoral artery), by rubbing them with a crayon of caustic potass; and in consequence of the length of these lines twenty minutes were occupied in this part of the process. In the next place, strips of lint smeared with chloride of zinc were fastened over the same lines, and a

bandage was applied over them to keep them in their place. During the night following the patient was sleepless, but there was no fever, and no marked degree of pain. On the following morning there was still no fever. The eschar, on examination, was found to be depressed and grayish-blue in colour, and there was very little inflammation in the neighbouring parts. This eschar was then divided throughout its length by means of scissors—the division including the proper skin and the subcutaneous cellular tissue and veins. Only a few drops of blood escaped in this part of the operation. After this the caustic crayon was applied in the groove made by the scissors, and strips of lint smeared with chloride of zinc, were pressed into the groove. Any little bleeding which followed the application of the solid caustic was immediately arrested by the strips of lint, and the whole procedure occupied about half an hour. The patient suffered more during the second sitting than during the first; but notwithstanding this there was no fever, and the appetite did not fail. The night was sleepless, but there was scarcely any pain.

6th (the third sitting).—The cauterization was repeated, and the muscular fibres were broken up to a considerable depth by the caustic. This was attended by acute pain, but there was no haemorrhage, and the day passed without fever. In the evening an opiate was given, and there was some sleep in consequence.

7th (fourth sitting).—The cauterization was repeated, the muscular tissues were broken down to the immediate neighbourhood of the bone, and still there was no haemorrhage. In the evening, however, there was some fever, and the countenance had an anxious expression.

8th (fifth sitting).—The cauterization was repeated, and a certain amount of blood escaped from the deep femoral artery, as its tissues became softened under the action of the caustic potass. This haemorrhage, however, was only slight, and it ceased altogether on the application of the strips of lint smeared with the chloride of zinc. In the evening the patient had much pain in the limb, which was greatly swollen—the pain arising from the action of the caustic upon the sciatic nerve, and the oedema from the obliteration of the deep veins. The night also was without sleep.

10th (sixth sitting).—The femur being now exposed, the limb was removed by dividing the remaining soft parts, and sawing through the bone, chloroform having first been given at the earnest solicitation of the patient. After this the flaps were brought together; and a pledget of charpie having been interposed between them, the stump was dressed in the ordinary way. The rest of the day and the night following passed favorably.

11th.—No fever.

12th.—Everything going on satisfactorily—pulse strong and full, skin perspiring, tongue moist, appetite good.

14th.—The sloughs are beginning to be detached at the edges, and a healthy suppuration is beginning to be established. During the week following there is nothing remarkable to report.

20th.—The sloughs are detached, and a healthy granulating surface is left behind. Examining the stump carefully, the flaps were found to be insufficient to cover the bone well, and it was decided to remove a further portion, an operation which was performed with the saw after the soft tissues immediately surrounding the bone had been first broken down by an application of the caustics. Very little pain was caused by this procedure, and the satisfactory progress of the case was not at all interrupted.

22d.—During the night, the stump was a good deal disturbed by the patient having attempted to get up in a dream.

October 1st.—The ligature came away.

November 1st.—A portion of the bone, which had been projecting for some days, exfoliated and came away.

20th.—The stump is cicatrizing; the patient eats with appetite, and is gaining flesh; he is also able to get up and walk about, with the aid of crutches.

27th.—From this time to the 7th of December the patient suffered from a sharp attack of erysipelas in the head and face; but in spite of this the stump went on cicatrizing, and the suppuration continued healthy. This is the latest account. Wine, and a liberal supply of food, were allowed throughout.

From some comments which accompany this case, it appears that the patient was not aware that his limb was about to be removed until the time had arrived for dividing the great vessels and bone. On the contrary, his impression was that the diseased growth alone was being attacked. It is hinted, also, that his sufferings were much greater than would appear in the preceding account of the case, particularly during the application of the caustic potass. And further it is stated, that in another case, MM. Manoury and Salmon are disposed to trust altogether to the caustic for dividing even the large vessels. O wonderful *vis medicatrix naturæ*!

ART. 5.—*On the Deaths following the inhalation of Chloroform in surgical operations.* By T. HOLMES, Esq., F.R.C.S., Surgical Registrar to St. George's Hospital. ('British Medical Journal,' 24th Jan. and 20th Feb., 1857.)

These papers contain the records, carefully tabulated, of fifty deaths under chloroform, occurring during the years 1848-55 inclusive, in thirty-nine of which *post-mortem* examinations were made, and in the great majority of which the chloroform was given by qualified medical men. These records are compiled after a careful search through the volumes of the medical periodicals published at home and abroad; and Mr. Holmes states that he has not wilfully omitted any, except two, both of which were extracted from non-medical papers without any guarantee as to their authenticity—one evidently an American hoax.

The following facts arise out of this inquiry:

1. *Sex.* This is noted in 44 cases; 21 were males, 23 females.
2. *Age.* All were persons in the middle period of life; no children, and only one man above the age of 60.
3. Most of the operations were of a comparatively trifling character.
4. The chloroform was given on a handkerchief, cloth, towel, or piece of lint, in 27 cases; in a sponge in 4; in an inhaler or other apparatus (not described) in 8; on Dr. Snow's inhaler in 3. In 8 cases the apparatus is not specified.
5. The quantity used was $\frac{3}{4}$ j. and under in 13 cases; $\frac{3}{4}$ j. and under in 12; $\frac{3}{4}$ j.- $\frac{3}{4}$ ss in 3; a larger quantity in 8; not specified, 14.
6. The time is noted in 32 cases: 2 minutes and under in 15 cases;

2-5 minutes in 6 cases ; 5-10 minutes in 6 cases ; above 10 minutes in 5 cases (in one of them, 40 minutes).

7. The symptoms are intelligibly described in 36 cases.

In 19 there was no previous struggle ; in all of these, except one, the pulse ceased before or at the same time with the inspiration.

In 17 there was previous struggle ; in 4 of these lividity and failure of respiration was next noticed ; in 13, failure of the pulse, or of the bleeding from the wound, generally preceded by pallor.

8. Of 33 cases in which *post-mortem* examinations were made :

(a) Eight, viz., Nos. 15, 22, 31, 32, 34, 42, 46, 50, showed no appreciable morbid appearances, *i.e.*, referable to chloroform : for one (No. 34) is said to have presented extravasation of blood in the spinal canal.

(b) The *heart* is reported *soft* or *flaccid* in 10 cases, Nos. 3, 9, 16, 19, 20, 23, 24, 27, 30, 46 ; *fatty* in 9, Nos. 26, 29, 33,* 35, 36, 37, 38,* 41, 45. The cases marked thus * were two of the oldest patients in the list, and the morbid appearance seems not to have exceeded the traces of fatty degeneration usually found at that period of life. The heart was *flaccid* and *empty* in 7 cases, Nos. 2, 5, 8, 9, 10, 14, 48 ; *full* in 1, No. 1.

The *blood* was usually fluid ; air was found in it in 3 cases, Nos. 2, 5, 24.

(c) The *lungs* were congested in 14 cases, Nos. 1, 2, 5, 8, 9, 10, 16, 19, 20, 23, 28, 45, 46, 50.

(d) The *brain* was congested in 7 cases, Nos. 1, 14, 16, 20, 23, 28, 44.

(e) *Other viscera* were congested in 6 cases, Nos. 1, 10, 16, 20, 24, 30.

(f) There was organic disease in 4 cases besides that of the heart, viz., aneurism, No. 39 ; phthisis, No. 3 ; atheromatous arteries, Nos. 33, 38. The latter had also granular degeneration of the kidneys. It will be observed that the latter two had also fatty degeneration of the heart ; but to a slight extent.

In these papers Mr. Holmes's object has been to show what the mortality after chloroform has really been, and to inquire whether the results of *post-mortem* examination have given us any clue for assigning it to its efficient cause—and in reference to these two points the facts appear to show—

1. That the reported mortality in the British Islands has been less than six *per annum* ; that a great number of these cases occurred in private practice ; and that, as many of them were disclosed by means of coroners' inquests, it seems probable that we do really hear of most of the fatal cases which occur in the United Kingdom.

2. That the *post-mortem* appearances have not been sufficient to indicate any uniform cause of death ; that the importance ascribed usually to fatty degeneration of the heart is greater than experience would warrant ; that, from the number of cases of persons previously in perfect health, and the rapidity with which death was produced, there is a strong presumption that the result was due to imperfect methods of administration, or carelessness on the part of the administrator. Further, from the experience of hospitals in which a rational method has been adopted and due caution exercised, we are justified

in believing that chloroform is as safe in its action as any drug which produces narcotism by mixing with the circulating blood, can in the nature of things be expected to be.

On the use of Amylene as an Anæsthetic. By JOHN SNOW, M.D., F.R.S.
(‘Medical Times and Gazette,’ 17th and 24th Jan., 7th Feb., and
11th April, and 10th May, 1857.)

Amylene was first discovered and described in 1844, by M. Balard, Professor of Chemistry to the Faculty of Sciences of Paris. It is made by distilling fusel oil with chloride of zinc. M. Auguste Cahours had given the name of amylene five years previously to a product which was isomeric with it, and made nearly in the same manner, but is now termed paramylene. Amylene itself is a colourless and very mobile liquid of extremely low specific gravity. M. Balard has not stated the specific gravity; but Dr. Snow has found it to be 0·659 at 56°. It is very volatile, boiling at 102° Fahr., and the specific gravity of its vapour is 2·45. It is a compound of ten atoms carbon and ten hydrogen, and it bears the same relation to fusel oil, or amylic alcohol, that olefiant gas or ethylene bears to common alcohol. It burns with a brilliant white flame. It is soluble in alcohol and ether in all proportions, but is very sparingly soluble in water. As far as Dr. Snow can ascertain, it requires rather more than 10,000 parts of water for its solution. It has an odour somewhat resembling naphtha; some persons think the odour agreeable, and some think it unpleasant; the odour is not so strong or permanent as that of sulphuric ether, and it does not remain long in the patient’s breath. The vapour of amylene is much less pungent than those of ether and chloroform, and, therefore, it is much easier to breathe, and has not caused coughing except a little in two patients with catarrh. Dr. Snow says that he was not aware of the existence of amylene till a few months ago, or he should have tried it sooner; for, judging from experiments which he had made on analogous substances, there could be no doubt of its causing insensibility when inhaled; but he could not tell, without trial, whether it might not be too powerful, or otherwise objectionable, in its action. He made several experiments on small animals with amylene, and after inhaling small quantities of it himself, he administered it in King’s College Hospital, commencing with cases of tooth-drawing, on November 10, 1856, and he had more recently given it in the larger surgical operations. He finds, from experiments on animals, that to induce a very complete state of coma, which he calls the fourth degree of narcotism, it requires that a fifth part as much amylene should be absorbed as the blood is capable of dissolving. To cause the second degree, or that state in which consciousness and volition are disordered, but not abolished, it requires a tenth part as much as the blood would dissolve, whilst to induce the third degree of narcotism, which is as far as he had found it necessary to carry the effect in the human subject, it required an intermediate quantity, or about fifteen per cent. In the case of chloroform, ether, and several allied substances, the proportion which required to be absorbed, is far less, being only, for the

fourth degree of narcotism, about one twenty-eighth part as much as the blood was capable of dissolving. Benzin, which was a simple carbo-hydrogen, like amylene, was intermediate between this and the above substances in the relative amount of it which was absorbed, one seventeenth part as much as the blood would dissolve being required to induce the fourth degree of narcotism. Whilst the relative amount of amylene absorbed is high, the actual amount is extremely small, owing to its very sparing solubility in the serum of the blood and other watery fluids. He calculates that in the adult human subject the amount of amylene circulating in the system, in the third degree of narcotism, is less than three minims. Viewed in the light of the small quantity which required to be absorbed to cause insensibility, amylene is a very powerful agent, but when considered in relation to the quantity which was consumed during inhalation to the usual way, it was very far from being powerful. This arises from the great tension and the small solubility of the vapour, in consequence of which it was, with the exception of a small fraction, expelled from the lungs again without being absorbed. It takes from three to four fluid drachms of amylene to cause insensibility in the adult, whilst less than a drachm of chloroform is usually sufficient. The quantity of sulphuric ether required to cause insensibility in the adult is eight to ten fluid drachms, one half of which was absorbed into the blood. In a protracted operation the quantity of amylene used is greater than that of sulphuric ether, as the small quantity of the former which is absorbed is quickly exhaled again from the lungs, and requires to be constantly replaced, whilst the large amount of sulphuric ether, when once absorbed, takes a much longer time to evaporate in the breath. It is necessary for the patient to breathe air containing not less than fifteen per cent. of vapour of amylene, in order to reach the third degree of narcotism, or that condition in which consciousness and voluntary motion are entirely suspended, the pupils being usually contracted and turned upwards, but the muscular system not necessarily relaxed. The patient must inhale the amylene at the rate of rather more than a fluid drachm a minute; in this way he becomes insensible in three minutes or rather less; but if the vapour was not inhaled in a sufficient volume, he would not become insensible by continuing the inhalation, for however long a time; the quantity of vapour must be increased, or it would not succeed. Dr. Snow has administered the amylene in his ordinary chloroform inhaler, which he had, however, got somewhat enlarged. In the use of amylene, absence of pain had been obtained with less profound coma than usually accompanied the employment of chloroform and ether. There are some cases, indeed, in which the minor parts of an operation, under these latter agents, might be performed without pain, whilst the patient was in a semi-conscious state, or even altogether conscious, but they formed the exception, whilst in the use of amylene, the patient had very often been partially conscious during the operation. In a case in which Mr. Fergusson removed a large melanotic tumour from the groin, the man repeated some verses very accurately whilst the arteries were tied, and was awake and talking to the bystanders whilst the wound was being stitched up, but felt nothing of it. The pulse is increased in

frequency and force during the inhalation of amylene to a greater extent than happened with chloroform; the respiration also is very often accelerated, about as often as in the inhalation of ether, and more frequently than with chloroform. There has not been much increase of saliva from the use of amylene, and Dr. Snow had not yet met with the profuse flow of saliva which is often troublesome in the employment of chloroform and ether. There has been no sickness in any of the operations in which he had exhibited the amylene, nor any of the depression which so often preceded and accompanied the sickness from chloroform and ether; and there has been hardly any struggling or rigidity in any of the patients, although several of them being robust men, a good deal of both might have been expected before complete insensibility, if chloroform had been the agent employed. Dr. Snow is of opinion that amylene would be perfectly safe with careful management. Sulphuric ether seemed to be perfectly safe in whatever way it was used; although it had been blamed for causing death, no fatal accident seemed to have been really occasioned by it. This arose from the circumstance that the dose of ether occupied so much space in the form of vapour, that it could not enter the system except by degrees, and its effects were necessarily produced gradually. In regard to chloroform, however, even a fatal dose occupied but a very small space in the form of vapour, and unless great care was taken to have it largely diluted with air, it might act with dangerous rapidity, and the point of safety might easily be overstepped. The quantity of amylene which required to be inhaled, occupied in the form of vapour, a volume intermediate between that of the vapour of chloroform and that of ether, and in all the ordinary methods of inhalation it must become mixed with a large portion of air. The relative advantages of amylene, in Dr. Snow's opinion, may be summed up as follows: In regard to its odour, it is more objectionable than chloroform, but much less so than sulphuric ether. In the amount which sufficed to induce insensibility, it is also intermediate between these two agents. In regard to its pungency, it has a great advantage over both ether and chloroform, being much less pungent than either of them; on this account the patient could always begin to inhale the amylene of full strength within half a minute, and the operation might generally be commenced within three minutes. It has an advantage in preventing pain with a less deep stupor than was occasioned by the other agents, and in the ready waking and recovery of the patient, it had an advantage over chloroform, and a still greater advantage over ether. The almost entire absence of struggling and rigidity in the use of amylene is another advantage it possesses; and the greatest advantage of all, if it should continue to be met with, is the absence of sickness from its use.

At first, moreover, Dr. Snow was disposed to think that the use of amylene would be free from the dangers which are attached to the use of chloroform, but, unfortunately, this hope has been already shown to be a delusion. Even the presence of Dr. Snow himself was not sufficient to avert the fatal result.

Case of death from amylene.—“Mr. Fergusson,” writes Dr. Snow, “requested me to assist him, on the 7th instant, in the case of a gentleman on

whom he was about to operate for fistula in ano. The patient was thirty-three years of age and was in good health, with the exception of the local complaint, although he had lived somewhat freely. Mr. Fergusson examined the patient's chest the day before the operation, and found the sounds of the heart to be normal, I felt his pulse just before he began to inhale. It was natural, but somewhat accelerated, as usually happens just before an operation. He was lying on his side in bed. About six fluid drachms of amylene were put into the inhaler (I never intentionally use all I put in, but add more before the paper becomes dry), and he breathed steadily and gently. The valve was gradually advanced over the opening in the face-piece till it about three quarters covered it, and the patient appeared to become quietly unconscious in about two minutes. He breathed quickly for a few inspirations just as he appeared to become unconscious. Just after this Mr. Fergusson came and felt the patient's pulse, and he says it was very good. I felt it also. I looked at my watch at this time, and it was two minutes and a half or two and three quarters from the beginning of the inhalation. Mr. Fergusson commenced to use the probe, and, finding the patient did not flinch, he began to use the bistoury. Mr. P. C. Price assisted at the operation. I held the patient's thigh with one hand, as I often do in such an operation, lest he should flinch. He did not flinch, however, but kept his limbs tense, without moving them. Just at this moment I observed that the valve of the face-piece, which I had left three quarters covering the opening, had moved so as to cover it entirely, but I cannot say whether or not the patient had taken an inspiration a little stronger than I intended, and thought nothing of the matter, as I have frequently had to close the valve completely in giving amylene. It could not, however, have been many seconds in that position, for I paid no attention to the operation, except so much as was requisite to guide me in what I was doing. The inhalation was discontinued at the moment I have mentioned, and on looking round directly after I found that the operation, which had apparently been but one incision, was finished. I now began to feel for the pulse, more out of constant habit, and from a scientific curiosity, than from any supposed necessity of doing so. Although it had been good only half a minute before, I could not find it in the left wrist, and only a slight flutter in the right one. His breathing was, however, good, indeed quite natural, and he did not seem even to be very insensible, for there was some motion both of his features and limbs, as if he were about to awake. I watched the patient with great anxiety, thinking that surely his good and natural breathing would restore the pulse, and feeling that at all events this superseded any other measures at the moment. In two or three minutes, however, he seemed to be getting more insensible; he did not wink on the edge of the eyelids being touched, and the breathing was getting slower and deeper. I called Mr. Fergusson's attention to the patient, and both he, who was preparing to go away, and Mr. Price, who had all the time been standing by the patient, were surprised to find that anything could be wrong, as they had seen the patient going on apparently so well, not only during the inhalation, but after it was discontinued. They dashed cold water in his face, which did not seem to have any effect. His countenance was now livid, and his breathing of a gasping character. It soon began to leave off, with the exception of deep, distant, gasping inspirations, and we therefore began to perform artificial respiration, by Dr. Marshall Hall's method, placing him in the prone position, and bringing him partly round, while Mr. Price kept the mouth open. The air could be distinctly heard passing through the larynx during this motion. We also tried pressing on the chest with the head on one side and the mouth open, which answered very well as regarded the in-

gress and egress of air. Inflation from mouth to mouth was tried, but did not seem to answer so well. Although deep gasping inspirations were made by the patient till fully ten minutes had elapsed from the failure of the pulse, the measures used had no effect; I believe that I heard a feeble motion of the heart even after this period; and, as Mr. Fergusson perceived a slight pulsation at the same time in the right wrist, I was probably not mistaken. There were no further signs of life after this, although the artificial respiration was continued for a long time. I am quite sure as to the length of time respiration continued after the failure of the heart's action. The pulse ceased to be distinctly perceptible at ten minutes before five, and the patient was still breathing at five o'clock. He had not taken food for some hours, but drank a pint bottle of ale a little while before the operation. A good portion of anhydrene remained in the inhaler after it had been uncovered for an hour and a half."

On a mode of preventing the Fears and Apprehensions connected with a Surgical Operation. By M. DIDAY, Formerly Senior Surgeon to the Venereal Hospital, at Lyons. ('Lancet,' 29th November, 1856).

In one of a series of letters, in which medical topics are treated with great soundness of judgment, M. Diday has lately directed attention, in the *Gazette Médicale de Lyons*, to a very kind mode of lessening the apprehension of persons who have consented to submit to capital operations, and which mode has been put in practice at the Military Hospital of Bordeaux. When it has been settled that a limb is to come off, the precise day is left undecided, and the patient is allowed, if the case admits of it, to forget the painful circumstance. Some morning the house-surgeon, in going round, says to the poor man, "By-the-bye, as you are to be operated upon, you may as well get accustomed to the smell of chloroform, and learn to inhale it." Thereupon he applies the mouthpiece, lets the man quietly inhale the semi-lethal vapour, and allows complete anaesthesia to take place. The patient is then carried to the operating theatre, where everything has been prepared beforehand, and every one is ready for his task. The operation is performed, and the poor sufferer wakes delighted that it is all over, and that he has been saved the pangs of trepidating expectation.

Successful Ligature of the Arteria Innominata. By M. PEIXOTO, of Rio Janeiro. ('Mém. de l'Acad. Imp. de Méd.,' t. xix, 1857).

This artery has been tied ten times, and in every instance the operation has terminated unsuccessfully. Nor is this case an incontestable instance to the contrary, for the ligature was not tightened so as to place an impassable barrier to the flow of blood. It was, indeed, a provisional ligature—*ligature d'attente*—which was intended to be tightened if any serious bleeding was found to follow the separation of a ligature which had been applied to the common carotid.

CASE.—M. M.—, a Portuguese physician of eminence, æt. 33. In 1832 an erectile tumour was developed in the right ear, and for this, M. Nélaton placed a ligature around the posterior auricular in 1845. When the ligature separated there was considerable haemorrhage, and this haemorrhage recurred at intervals during the next six years. On the 14th of November, 1851, M.

Moura being at Rio Janeiro, M. Peixoto tied the common carotid, in the middle of its course, for a brisk attack of haemorrhage, and shortly afterwards he placed a ligature around the tumour, and caused it to separate by sloughing.

On the 8th of December, M. Peixoto applied a *ligature d'attente* to the trunk of the innominata, having been led to take this step in consequence of threatened haemorrhage from the part where the carotid was constricted by the ligature. This precaution, however, was not necessary, for the ligature separated from the carotid without any haemorrhage, and the patient recovered from the tumour and the operation without any further impediment. The *ligature d'attente* was removed in two or three days after the separation of the other ligature, when there appeared to be no longer any fear of haemorrhage.

The details of this case are by no means satisfactory, and it may be doubted whether the arteria innominata was really included in the ligature. At any rate there is nothing to show that the vessel included was more than the root of the common carotid; and if the arteria innominata was included, the ligature was not tightened.

On Excision of the Shoulder-Joint. By the late E. R. BICKERSTETH, F.R.C.S., Surgeon to the Royal Infirmary at Liverpool. ('Liverpool Medico-Chirurgical Journal,' Jan., 1857.)

In order to accomplish excision with the least difficulty, Mr. Bickersteth prefers the plan recommended by Mr. Syme. A large, straight, sharp-pointed bistoury should be introduced immediately under the centre of the acromion, and carried downward close upon the bone to near the insertion of the deltoid, and then from the termination of this incision another should be directed upwards and backwards, so as to divide the posterior part of this muscle. Ample room is thus obtained to turn out the head of the humerus should this prove necessary. But, before proceeding to this step, it will be well to examine carefully with the finger, as, possibly, the disease may prove to be necrosis, and admit of cure by the simple extraction of the sequestrum. If this is not the case, however, the flap must be separated from the bone, and, the finger being used as a guide, a probe-pointed curved bistoury should be introduced against the back of the head of the humerus, and its sharp edge pressed firmly upon it, while an assistant at the same time rotates the arm outwards, pulls it downwards, and draws the elbow across the opposite breast. In this way the head of the bone is projected from the wound, and a few remaining touches with the same knife effect the division of the muscular attachments. The bone is then sawn through below the diseased portion, and free access obtained to the glenoid cavity. If it is only superficially diseased, the incisions already practised are sufficient to afford room to enable the surgeon, with a pair of narrow-bladed cross-cutting forceps, to remove the surface of the glenoid cavity; but if the bone is deeply ulcerated, and particularly if it feels rough, and deprived of its periosteum to any extent beyond the region of the neck, it is impossible to reach the whole of the disease without enlarging the wound. This is best accomplished by extending the posterior incision in a curved direction, the convexity being upwards, across the body of the scapula,

to an extent corresponding with the supposed extent of the disease. A good deal of haemorrhage results from this proceeding, and it is better to secure the divided vessels without delay, as the remaining steps of the operation are necessarily somewhat tedious. However, the facility it affords is very great, for after the muscles have been raised with the flap from the bone, the operator is able to remove without difficulty a very considerable portion of the scapula; as much, indeed, as is usually liable to disease that has originated in the shoulder-joint. The instrument that will be found most useful in taking away the carious bone, is a pair of strong cutting pliers, the blades of which are set at an obtuse angle with the handles. They must be introduced with the finger as a guide, and piece after piece cut away till the whole of the disease is fairly removed, for on this depends the success of the operation. The wound should then be cleared of clots, and several sutures introduced to keep the flaps in apposition. The arm must be placed against the side, and the elbow well supported so as to prevent any movement of the part.

There are several advantages gained from this proceeding: the first incision allows a free examination of the joint, and enables the operator to determine how much of the bone it is necessary to remove. The second divides only the posterior half of the deltoid, and while it leaves the arm still supported by the anterior part, it affords ample room for the excision of the head of the humerus, and of the *surface* of the glenoid cavity. Again, by extending the same incision across the lower part of the body of the scapula, as much of that bone may be removed as is found desirable. If, on the other hand, amputation appears essential, the incisions first practised require only to be extended across the front and back of the arm, and very excellent flaps are formed.

As regards the after treatment of excision, it is of the greatest importance to prevent the least movement of the arm. The part should be treated as if it were a compound fracture. Let the surgeon bear in mind that the chief danger is in the exhausting and very profuse discharge that invariably follows an operation of this kind; and let him remember that any movement of the bones, in the interior of the wound, will increase the irritation, and render the suppuration more profuse. In dressing the wound, he must not be tempted to raise the arm or lift up the elbow, with the idea of thereby facilitating the escape of matter. If there is any lodgment or hinderance to its escape, it is far better to make dependent openings.

When the shoulder is dressed, if the patient is sitting up, an assistant should carefully steady and support the arm during the whole time. In addition to the ordinary sling, under the arm and round the joint of the elbow, Mr. Bickersteth has found great comfort and support afforded by a long broad strap of strong plaster fastened under the elbow, and brought up, first in front along the upper arm, and then over the top of the shoulder. This may be allowed to remain on as long as it will adhere. It affords support to the arm during the time the sling and bandages are being changed, and it serves in some measure to fix and steady the scapula. When the patient is in a recumbent position, small pillows should be placed under the upper

part of the arm, as otherwise it is liable to get displaced. After the sutures have been removed, strips of adhesive plaster may be laid over the lines of incision ; and when union and a sufficient degree of consolidation have taken place, the supports may be removed, and passive motion of the arm commenced.

So far from making it a practice to administer regular and periodic doses of opium after a capital operation, Mr. Bickersteth has seldom found it necessary to order even a single draught ; on the contrary, he is satisfied that, as a general rule, when an operation is undertaken for long-standing disease, the patient sooner recovers from the shock, and sooner regains appetite and power of digestion, when opium is not given. The pain that follows any severe operation lasts only for a few hours, and if this period can be passed without the administration of opium there will be less thirst, a cleaner tongue, and a condition more calm and comfortable on the following days.

Mr. Bickersteth relates three cases in illustration. In two of these the glenoid cavity of the scapula was extensively diseased ; and in one, a part of the body of the bone, the inferior costa, together with the entire neck, required such extensive ablation, that the coracoid process was detached from its base ; and yet, even after this serious mutilation, the case progressed most satisfactorily. Twenty-three days after the operation, the wound had healed, the discharge almost ceased, and the arm shortly recovered such power, that the patient was able to wash, carry considerable weights, and attend to all her household duties.

On Disarticulation of the Scapula from the Shoulder-joint.—By JAMES SYME, F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh. ('Lancet,' March 7th, 1857.)

This case is one which will probably tend to encourage greater freedom in operating for diseases of the shoulder-joint as well as scapula, inasmuch as it proves that the scapula may be removed without serious loss of blood, that the resulting wound does not occasion excessive discharge, and that the arm becomes afterwards a serviceable limb. It was brought before the Royal Medical and Chirurgical Society, on the 24th February, 1857.

CASE.—Janet S—, nearly seventy years of age, was admitted into the Royal Infirmary of Edinburgh, on the 18th of September, 1856, on account of a large tumour involving the left scapula. In size and form it resembled a cocoa-nut. In some parts it was as hard as bone ; in others, elastic but firm. It presented a distinct bruit, and communicated a strong pulsatory movement. The tumour was first noticed about six months before, when it was the size of an orange. Considering, on the one hand that the extension of the growth into the axilla rendered relief by a partial removal of the bone impossible,—the unsatisfactory result of that operation in Mr. Liston's recorded case,—the fearful mutilation which it would involve,—and the small hope of a successful issue to so formidable a procedure at her advanced age ; whilst, on the other hand, the chief obstacles to recovery seemed likely to be serious haemorrhage, (which it was thought might be prevented,) or excessive drain upon the patient's strength in the subsequent suppuration,—Mr. Syme determined to

remove the entire bone. This was done as follows: an incision was made from the acromian process transversely to the posterior edge of the bone, and another from the centre of the first directly downwards below the lower margin of the tumour. The flaps thus formed were then reflected. The scapular attachment of the deltoid, and the connexions of the acromial end of the clavicle were next divided. With a view to prevent the most serious source of haemorrhage, the subscapular artery was next cut across, and secured. The joint and circumference of the glenoid cavity were next divided; the finger being hooked under the coracoid process greatly facilitated the division of its attachments, and enabled the operator to pull back the bone, and separate its remaining attachments with rapid strokes of the knife. The limb was supported and retained in situ by a bandage. The tumour, on examination, was found to consist of a nearly uniform expansion of the bone into a bag, partly membranous, partly osseous, containing a cerebriform growth, and extended to the margin of the glenoid cavity and spine of the bone. All seemed to promise well after the operation; the wound healed rapidly. At the end of a fortnight the amount of discharge was scarcely sufficient to stain the bandage. The shoulder assumed a very natural appearance, and it seemed that by the support afforded by the clavicular portion of the deltoid, together with the action of the pectoralis and latissimus dorsi, the limb would be able to execute a fair degree of motion,—indeed, the woman was with difficulty prevented from using the limb too freely; but the patient's strength did not improve in a corresponding degree, and towards the end of November she suddenly sank, and died on the 1st day of December.

On Puncture through the Abdominal Parietes in impassable Obstruction of the Bowels. By SIR HENRY COOPER, M.D. Lond., Physician to the Infirmary, Hull. ('British Medical Journal,' 21st Feb., 1857.)

The interest of the case which is here recorded arises chiefly from the simple, easy, and effectual means employed in its relief, and from the successful issue. The disadvantages of these means are, the wounding of both layers of peritoneum, and of the bowel itself. With the precautions described, however, the chances of peritoneal inflammation do not seem to be materially greater than in ordinary tapping; and a wound of the intestine is implied in every case where an artificial opening is formed. The uncertainty as to the part of the intestine perforated, is a disadvantage shared in common with other operations. The part chosen is the most distended part, and therefore of necessity a point above the stricture, and certain to give relief: so that there need not be any hesitation or delay in searching for particular portions of the intestine. The opening is of necessity small; this is a serious objection, but it may be obviated by the size of the trocar and the canula used, by the free use of sponge-tents, and by maintaining a mouldable state of the faecal mass.

The advantages are: the puncture is momentary, and unattended with pain or shock to the system at the time, or with any after constitutional effect; a most important consideration where the patient is already in the last stage of an exhausting malady; the certainty of immediate relief if the prominent part is selected; and hence the absence of any doubt or difficulty in determining the site of the

obstruction; and if the puncture does not succeed, the patient's death is at least not accelerated. There are some advantages also as regards the management of the opening afterwards; it is altogether under the patient's control; it is not liable to the prolapse and tension of the mucous membrane, or closure by septum which interfere with other artificial openings; and, lastly, it is not so deep seated as the lumbar anus, and therefore not so liable to obstructions and infiltration between the inner opening and the skin.

The operation is applicable to any form of intestinal obstruction where there is great distension (and this condition is rarely absent); and is particularly indicated in the later stages of schirro-contracted rectum, or other malignant disease, where the object is to prolong life for a few days or weeks, and mitigate suffering at little or no expense of vital power.

CASE.—M. A. K.—, æt. 34, a robust, healthy, unmarried female, stated she had had no relief from the bowels since a scanty and imperfect evacuation on the 2d. She had for many months suffered from abdominal pains, constipation, difficulty in passing stool, and distension and tenderness in the right iliac region. She had now the usual symptoms of obstruction, with eructation and nausea, but little or no actual vomiting. Calomel and rhubarb, with saline purgatives, were given. O'Beirne's tube was then used, and passed fourteen inches, and large quantities of gruel, castor oil, and turpentine, were injected, but returned unchanged. This plan was followed till December 13th. She then took two grains of opium every three hours, up to six grains, with no other result than that of abating the pain, which had become intense, and procuring refreshing sleep. At this time I first saw her, and formed a very unfavorable opinion of the case. There was great prostration; a sunken, anxious, suffering countenance; rapid weak pulse; very great abdominal distension; hiccup and occasional vomiting of offensive matter. Careful examination of the abdomen detected no tumour or induration, but a uniform tight distension, except a slightly prominent roundness about the right iliac fossa, where was some additional tenderness. Opiates and enemata, with fomentations, were used till the evening of the 15th, when the symptoms being all aggravated, and the powers of life flagging, it became necessary to determine whether any and what operation should be performed. In determining this question, the following points were important. The rectum and sigmoid flexure were not the seat of obstruction, as was clearly shown by the passage of the tube, and the large quantity of injection (three or four pints) retained. The situation of the prominent distended point indicated the cæcum as the seat of the stricture, the distension probably consisting of the caput coli or immediately contiguous portion of the tube. The tenderness at this point indicated that some peritoneal action had been set up here, and that *probably* the bowel and abdominal parietes might be adherent. The abdominal walls, as proved by percussion, were thin at this point, and no important part would be endangered by piercing them. These considerations, pressed on us by the extreme urgency of the symptoms, determined us to puncture this prominent part of the gut with the largest sized trochar, and thus, at all events, to secure temporary relief. The operation was precisely that of paracentesis abdominis, except that it was not performed in the median line, and had therefore to pierce muscular fibre, an incident not without a favorable bearing on the after issue of the case as affecting the patency of the opening. The situation of the puncture was about three inches to the right, and one inch below the umbilicus. The immediate result of the withdrawal of the trochar was the

escape of an enormous quantity of flatus, followed by fluid fæces, producing instant tranquillity, and a decided general improvement in our patient's condition. It was an essential part of our plan that the canula should be retained in the bowels at least for three days, as by that means the parts were *pinned* together, and extravasation rendered mechanically impossible. This state of parts would also favour the surrounding and isolating of the puncture by lymph, and the limiting of peritoneal inflammation, should such be set up. The operation was unattended by any difficulty or after complication; the system was relieved from the moment of the puncture, not having to rally from the shock of a long and severe operation; nor did any symptoms whatever arise from the simple procedure adopted, except a slight local irritation, due rather to the dressings and apparatus than to the operation itself. For three days the canula was retained in the wound, and a moistened bladder was attached, into which flatus and fæcal matter were freely repelled, and removed from time to time. Afterwards a gutta percha tube was inserted into the opening, and closed by a plug. A saline aperient was administered to keep the fæcal matter in a semi-fluid state, and the bowels generally emptied themselves spontaneously when the plug was removed. Some difficulty was experienced in fitting the opening with a tube, which should be large enough to retain its position and to discharge the contents, and not too large to pass readily into the bowel. Sponge-tents were found of very great use in dilating the opening, which might have been increased in this manner to any desirable extent. Eventually the patient managed the opening herself with a tent or rolled linen plug well greased. The course of the recovery was two or three times retarded by coughs, febrile attacks, and nervous debility; but these conditions were successively overcome as the summer advanced. She acquired more skill and confidence in managing her tents and bandage, and regulating the condition of the bowels; she left town for the sea-side for a few weeks, and returned in good health. She now (thirteen months after operation) is able to walk several miles, and to attend to her household duties; her functions are naturally performed; she is as stout as usual, and is free from local or general uneasiness. She takes a small quantity of Epsom salts every morning, and has a free semi-fluid discharge with much flatus daily. There is a tendency in the opening to close; it is of about the size of the little finger, and might doubtless be much increased if the patient could be prevailed upon to use sponge-tents for a week, and then adopt a permanent tube instead of the linen plug, which she still uses on account of its easy manipulation. There is some permanent enlargement of the abdomen, probably from over-distended bowel, which has lost its tone. No fæcal matter has ever passed *per anum*, only a little flatus and inspissated mucus occasionally.

On the spontaneous cure of Psoas Abscess. By M. BOUVIER, Surgeon to the Hôpital des Enfants, at Paris. ('Archiv. Générales de Médecine,' January, 1857.)

The object of this paper is to show that the spontaneous cure of psoas abscess is a more frequent occurrence than is generally supposed, and in that way to encourage surgeons to persevere in the several measures which experience has shown to be useful in promoting that end. A careful examination of the iliac fossa in *all* persons suffering from Pott's disease has convinced M. Bouvier that psoas abscess is often met with when its existence is not suspected, and that it often disappears before attention has been called to it. M. Bouvier has

also met with several cases in which large and evident psoas abscesses have been more or less completely absorbed, and he relates four of them in the present paper. Of these cases we select one.

CASE.—Emile G—, æt. 9, admitted into the Hôpital des Enfans, at Paris, December 7th, 1853, with angular curvature of the lumbar spine, psoas abscess, and some other symptoms of less moment. Rest and tonics were prescribed, and under this treatment the general health improved, but the abscess increased until it acquired a very large size. At the end of six months, indeed, it filled the entire right iliac fossa, and extended considerably into the cellular spaces of the thigh, posteriorly as well as anteriorly. Salt bathing, counter-irritation in various forms, and other measures were tried for several months, and the health improved, but the abscess remained at about the same size—sometimes diminishing a little, sometimes increasing. The whole of the year 1854, and the early part of the year 1855, were occupied in these trials. In April, 1855, an attempt was made to open the abscess in the thigh where the pus appeared to be pointing, but the knife did not enter the sac, and the attempt was not repeated; indeed, it was found that the walls of the abscess were thicker than was supposed, and this discovery led to a renewal of the attempt to procure absorption. From June, 1855, to June, 1856, small doses of iodine were given with considerable regularity, and under this treatment, and the occasional application of blisters, the abscess diminished in size, until at last *no trace of it could be discovered*. The patient was discharged, well, on the 30th of June, 1856; indeed, the recovery was perfect, for there was no longer any tenderness over the part of the spine which had been carious, and the power of standing upright and walking freely, was also restored. M. Bouvier had another opportunity of seeing the patient in October, and still there were no traces of the abscess, either in the iliac fossa or in the thigh.

Such cases as these are not very uncommon, but they are not sufficiently borne in mind. Indeed there is at present in the Westminster Hospital, under Mr. Brooke, a girl, aged seventeen, who has been for many years the subject of angular curvature of the lower part of the lumbar spine, with caries of the bodies of the bones, and a large psoas abscess for the last nine months, which pointed in the thigh. This abscess was punctured. Very large quantities of matter continued to flow for some time, and several undoubted fragments of the bodies of the diseased vertebrae came away. The girl's health began to improve, her strength and flesh to return, and for the last three or four months she has been up and walking about the ward. There is still a little discharge, but not of much moment, and there is every reasonable hope of a permanent spontaneous cure. Her stay in hospital has been about seven months.

III.

REPORT ON THE PROGRESS OF MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

On the treatment of Ovarian Cysts by injections of Iodine. By M. BOINET.
(‘Gaz. Hebd. de Méd. et Chir.,’ Nov. 21st, 1856.)

IN this memoir M. Boinet gives a table of 44 cases which had been treated in this manner by French surgeons during the last nine years, and from this table we may learn several interesting particulars. We may learn, in the first place, that the operation succeeded in 31 out of 45 (there were two cysts in one person) of the cysts operated upon, and that death happened in 9 out of the 14 remaining. Of the fatal cases, the cyst was multilocular in 6, and unilocular in 3; of the failures, the cyst was multilocular in 5.

The age of the patients operated on varied from 15 to 78.

	Cases.	Cures.	Failure.	Deaths.
From 15 to 20	2	1	1	—
"	7	5	1	1
"	17	16	—	1
"	11	6	2	3
"	5	2	—	3
"	3	1	1	1
—	—	—	—	—
	45	31	5	9

The duration of the disease before the operation is not mentioned in 9 cases, and in the remaining 36 it varied from three months to ten years.

The number of simple punctures prior to the injection, is only noticed in 14 cases. In 31 cases these punctures were not performed, or the fact is not mentioned. Prior to the injection the simple punctures were—

In 5 cases	1 puncture.
," 2 "	2 "
," 4 "	4 "
," 2 "	6 "
," 1 "	16 "

The variety of cyst was—

Unilocular.....	34
Multilocular	11

Among the unilocular cysts, 2 were hydatidiform, 2 complicated with fibrous tumours, 3 purulent, 3 complicated with ascites, and 2 multiple.

The fluid was—

In 23 cases, serous and yellow coloured.
„ 9 „ thick and gelatinous.
„ 3 „ purulent.
„ 3 „ clear and limpid as spring water.
„ 3 „ chocolate-coloured serum.
„ 3 „ sanguinolent serum.
„ 1 „ pure blood.

The state of general health was more or less unsatisfactory in all. In 28 it was very unsatisfactory.

The number of punctures and injections was very considerable. In the 44 patients the punctures were 144, and the iodine injections 139; and in no instance were these punctures and injections attended by any ill results, neither at the time of the operation, nor after it—i. e. during the first week. In one case the patient died on the fifth day, from the effects of peritonitis and purulent absorption; but this was brought about, in M. Boinet's opinion, by the fact that the patient would get up on the day of the operation, and on the day following, to change her linen and arrange her bed.

In 19 instances there was only 1 puncture and 1 injection; and in 16 instances the patient was cured, although in several of them the cyst contained a large quantity of fluid—more than 20 litres; and this fact may, therefore, be said to show that it is not necessary, as M. Demarquay proposes, to diminish the size of the cyst by repeated punctures before having recourse to the iodine injection.

In 7 instances the punctures and injections were performed twice, and in 5 the result was successful. In 1 case the patient died from the effects of purulent absorption, and in the account it appears that she had twice withdrawn a canula which had been left in the wound; in the other unsuccessful case, the tumour was multilocular.

In 6 instances the punctures and injections were performed twice, and the results were 4 cures, 1 failure (the cyst was multilocular), and 1 death.

In 2 instances the punctures and injections were performed 4 times, —in 1 successfully, in the other the patient dying. In 1 instance there were 4 punctures and 3 injections, and the patient died; in another instance there were 4 punctures and 2 injections, and the patient was cured.

In 4 instances there were 6 punctures and 6 injections, and the results were 2 cures, 2 failures, and 2 deaths—the 2 cysts being multilocular in both fatal cases.

In 2 instances there were 17 punctures and 17 injections. In 1 of the patients there were 2 unilocular cysts, in the other the cyst was multilo-

cular. The first patient was cured; the other died when she was nearly well, having taken cold in consequence of having to get up to open a door.

In 2 instances there were 9 punctures and 9 injections, and in both (the cysts were multilocular) the patients died.

In 45 cysts, that is to say, there were 31 cures and 14 failures, and among the failures 9 deaths. Of these 9 deaths, 6 were doomed to certain and speedy death, and the iodine injections may be said to have prolonged life rather than to have shortened it. The cysts in these cases, moreover, were all multilocular, and filled with a thick and unsatisfactory fluid. The 3 other cases appear to have miscarried in consequence of some imprudence on the part of the patient. In one, the patient got up and changed her linen on the day after the operation; in the second, the patient believed herself to be well, and, impatient to leave the hospital, she withdrew the canula from the opening; in the third, the patient was exposed to severe cold two days after the seventeenth injection, in consequence of having to get out of bed to open a door. Indeed, in no instance could death be attributed to the punctures or to the injections, and in the majority life would seem to have been prolonged, and existence rendered more supportable by the operation.

The patients in whom the operation failed were 5 in number, and they all had multilocular cysts, complicated either with tumours or ascites. In 3 the injection was repeated several times without producing the slightest ill consequences; in the other 2 the operation was only performed once. In the whole number, the patients were undoubtedly relieved by the operation, and of this number 3 are still alive. Of the 2 who are dead, 1 lived eight months after the last injection, which was the fourth within five months; and the other more than twenty months after the third injection.

Hence we may conclude from the history of these 44 cases—

1. That the operation of injecting iodine into these ovarian cysts was unattended by any kind of danger, and that equally whether the cysts were simple or complicated, unilocular or multilocular.
2. That the operation has frequently brought about a radical cure (two in three), and that it has always produced some remarkable amelioration even where a cure was not to be hoped for.
3. That simple, unilocular serous cysts, even when very voluminous, have usually been cured by a simple operation.
4. That a great number of punctures and injections have been practised upon the same cyst without any inconvenience whatever.
5. That it is desirable to operate at an early period before the cyst has become multilocular, and before the general health has suffered; that it is expedient to operate as soon as the cyst can be detected, if the cyst is making any progress; and that the operation ought to be repeated as soon as the liquid begins to re-accumulate.
6. That the canula ought to be retained in exceptional cases, and where the operation has frequently been repeated without success.

On Cysts of the Ovary. By MM. CAZEAU, HUGUIER, and others. ('Rév. Thér. du Midi,' Feb. 15th, 1857; and 'Dublin Quart. Journ. of Med. Science,' May, 1857.)

The following is a summary, deduced in the form of propositions by M. Saurel, from the observations of the several speakers who have taken part in the discussion at the Academy of Medicine, which has so long agitated the profession in France:

1. Cysts of the ovary constitute a most serious disease, and one which has a strong tendency to a fatal termination (Cazeau and Huguier).

2. These cysts have a variable duration, which is usually four (Cazeau); six, ten, or twelve years (Velpeau).

3. It is an error to suppose that, in the majority of cases, life is prolonged to an advanced age: the younger the patient is, the more speedily does she sink under the disease (Huguier).

4. There are ovarian dropsies which are absolutely incurable, and which have neither curative nor palliative treatment; these are the areolar cysts, the vesicular cysts, and the multilocular cysts, with numerous non-communicating cells (Cruveilhier).

5. In certain cases ovarian cysts may get well spontaneously, or may be removed by certain therapeutic agents (Velpeau).

6. Their cure may take place as a result of rupture, though this accident most frequently proves fatal (Velpeau).

7. The so-called palliative puncture of ovarian cysts is not a dangerous operation. It may, in certain cases, which are, however, very exceptional, lead to permanent cure; but it is attended with the serious inconvenience of producing or hastening exhaustion of the system, by subtracting a considerable quantity of fluid (Velpeau).

8. Puncture, followed by the injection of an ioduretted solution, is, in the present state of our knowledge, the most certain and least dangerous means of curing this hitherto incurable disease (Cazeau).

9. Immovable canulas and sounds ought to be banished from the treatment of ovarian cysts, except under very rare circumstances; their employment being an almost constant cause of suppuration.

10. The proceeding to which it is in almost every case advisable to have recourse is puncture, followed by ioduretted injection, with occlusion of the opening.

11. Unilocular cysts, without organic alteration of their walls, containing a serous, sero-sanguineous, or albuminous fluid; cysts which have originated in an extra-uterine pregnancy; and purulent cysts, are those most amenable to treatment (Huguier).

12. The discussion having proved that puncture followed by ioduretted injection is not more dangerous than simple puncture, it will be right to operate early, in order to have the best possible chance of success (Velpeau).

13. The proper time to operate is when the cyst, not having yet acquired a large size, is beginning to cause suffering to the patient, or to exercise an injurious reaction upon the functions.

14. The great danger in the curative, as well as in the palliative, treatment is purulent and gangrenous inflammation of the cyst. The choice of the proceeding to be adopted should be directed by this indication (Cruveilhier).

15. Extirpation of the ovaries is a fearful operation, and ought to be proscribed, even were the cures which have been announced real (Velpeau).

The Change of Life in Health and Disease; a practical treatise on the nervous and other affections incidental to women at the decline of life.
By EDWARD JOHN TILT, M.D., Physician to the Farringdon General Dispensary and Lying-in Charity. (Second edition, 8vo, London, Churchill, 1857, pp. 307.)

This volume illustrates the medical history of the period comprised between the fortieth and fifty-fifth year, and, in addition to other data, it embodies the tabulated estimates of the symptoms and diseases observed among 500 women who were at the change of life, or who had passed it. Its object is to establish by various arguments, and mainly by those which are derived from personal experience—

1. That the period of life comprised between the fortieth and fifty-fifth years, commonly called the change of life, is eminently critical; that while in most women the critical phenomena with which this epoch abounds are instrumental in curing the complaints and strengthening the constitution, there are a certain number of women in whom these critical phenomena give rise to numerous, and sometimes to fatal diseases.

2. That a more accurate physiology of the change of life can alone explain its pathology. That the date of cessation; its diagnosis from some of the affections to which women are liable at the decline of life; the various compensating agencies by which health is then maintained in the absence of a thirty years' habitual sanguineous flow, are points of deep interest, and the last explains how nature remodels the female frame, so as to endow it with greater longevity, and with comparatively greater immunity from disease.

3. That instead of adopting the vague or hazardous notions generally put forth respecting diseases of the change of life, it is better to seek a knowledge of the real morbid liabilities of this epoch, from the per centage of various diseases, deduced from a large number of well-tabulated cases.

4. That the natural history of the change of life can alone indicate the best modes of treatment for the complaints incidental to this period, and that, notwithstanding the interference of fashion with medical practice, it is still safe and desirable to imitate the critical efforts of nature at this crisis, by bleeding, by giving purgatives and sudorifics.

5. That for the preservation of the health of women at the change of life, and for the possibility of deriving full benefit from the beautifully adapted critical phenomena then progressing, it is necessary that women should adhere to a judiciously laid down code of hygiene.

6. That the first part of the period under consideration is one of turbulent activity for the reproductive organs, giving rise to numerous complaints, comparatively few of which come under medical treatment, though many are patiently borne, until, by their reaction on the nervous system, they help to produce many forms of nervous disorder.

7. That the digestive organs, particularly the biliary apparatus, are very frequently affected at this period.

8. That the affections of the skin, noticed at the change of life, are rather tedious than severe.

9. That well-localized nervous affections sometimes occur at this critical epoch.

10. That there are ganglionic nervous affections, which should be carefully distinguished from the cerebral and the spinal nervous affections, with which they are now confounded, because they often coincide and alternate with them; that these ganglionic nervous affections most frequently occur in women, at all the critical epochs of the reproductive function, and are very general at the change of life.

11. That there are several well-determined modes of cerebro-spinal disturbance to which the term hysteria is indiscriminately applied, and that, unless clearly defined, that term is a bar to the progress of mental pathology, by lending to ignorance a scientific cloak. That cerebral affections are so common at the change of life, that few, if any, women escape suffering from the milder forms of cerebro-spinal disturbance, and that these, if neglected, sometimes merge into the many varieties of insanity, the worst cases being, however, peculiarly amenable to treatment, of which the local application of sedatives is an essential part.

12. That women, at the change of life, are frequently afflicted with cancer, gout, and rheumatism.

There are few points in the several subjects touched upon in which the reader may not gain some valuable information, and where there are so many to choose from we scarcely know where to turn for illustration. We would, however, especially direct attention to the chapter in which Dr. Tilt attempts to trace the boundary line between cerebral and ganglionic affections, and we do this in order to express our sympathy with the attempt. No doubt the physiology of the ganglionic system is yet in its infancy, and the pathology is still in great measure a matter of conjecture; but we agree with Dr. Tilt in thinking that the experiments of M. Claude Bernard and others have furnished us with reasons for supposing that the cause of certain nervous symptoms which are usually referred to the cerebro-spinal system may be found in certain errors in the ganglionic system. Epigastric faintness and sinking, epigastric pain or anomalous symptoms, fainting or leipothymia, prolonged and intense debility, monthly depression of strength, chloro-spanæmia, palpitations, aortic pulsations, hysterical asthma, &c.—symptoms which are especially prone to happen about the change of life—are all, in Dr. Tilt's opinion, to be referred to certain errors in the ganglionic system, and certainly they would seem to be more easily accounted for upon this hypothesis than any other.

Case of Uterine Retroversion, in which the reduction was facilitated by placing the patient in an inverted position. By M. GODEFROY, Professor of Midwifery at Rennes. ('Gaz. Méd. de Paris,' January 24th, 1857.)

The advantages of this plan are self-evident, for not only is the uterus relieved from the pressure of the overlying viscera, but the very position of the patient prevents her in great measure from "bearing down," and in that way counteracting the action which is necessary to restore her uterus to its proper position. M. Godefroy refers, moreover, to three other cases in which he had, some years ago, tried this plan with success.

CASE.—October 8th, 1855.—Madame Noël, tall, and having a capacious pelvis, the mother of several children, and now in the four and a half month of her pregnancy, fell while descending a pair of stairs, and received a severe shock upon her seat. Immediately afterwards she suffered from "bearing-down" pains, and from difficulty in emptying the bladder and rectum. For six days after the accident the symptoms were not sufficiently urgent to prevent her from discharging her ordinary duties; but on the seventh day the retention of urine and faeces became complete, and she was obliged to send for help.

15th.—Believing herself to be threatened with abortion, she sent for a sage-femme, who found the uterus to be completely retroverted, so that its fundus rested on the coccyx. The bladder, also, was distended to an extreme degree. Catheterism was attempted, but the ureter was so compressed under the neck of the womb, that the instrument would not pass. The patient was then placed upon her hands and knees, and having placed herself behind, the sage-femme introduced three fingers into the rectum, and attempted to replace the uterus, but vainly.

When M. Godefroy arrived, the patient was found to be in a state of extreme agitation, and every moment she was off the bed in order to repeat her ineffectual attempts to relieve the bladder and rectum. On examination the body of the uterus was found to fill the entire pelvic cavity, the neck being firmly applied to the pubis, and the fundus resting upon the coccyx. So wedged was the uterus in this position, that M. Godefroy did not think it advisable to renew the attempts at catheterism; and, therefore, without loss of time he proceeded to make the patient hang over the edge of the bed, in such a manner that, her head and shoulders downwards, and her pelvis upwards, the lower limbs were upon the bed, and the hands and forearms upon the floor. Then, placing assistants so as to prevent the patient from slipping from the bed, and having waited a few minutes, M. Godefroy introduced four of his left fingers, previously oiled, into the rectum, and pressed upon the fundus of the uterus, when presently the uterus was righted, and the patient cried out, "Je suis guérie," and at the same time voided a large quantity of urine. About a quarter of an hour was occupied in this proceeding, the pressure having been once or twice intermittent for a minute or two, in order to allow the patient time to breathe. After this, Madame Noël was placed upon her side, with a pillow under her pelvis, and she was ordered to keep in this position for a few days. The convalescence was rapid and uninterrupted.

On Cranial Presentations and Cranial Positions: suggestions, practical and critical. By R. U. WEST, M.D., of Alford, Lincolnshire. ('Glasgow Medical Journal,' Oct., 1856, and Jan., 1857.)

The chief points to which Dr. West is desirous of directing the attention of obstetricians are—

1. A more correct appreciation of the diagnostic value of the presence of the ear at the symphysis pubis; the ear in the great majority of cranial presentations lying in that situation during the whole progress of the head into the pelvis.
2. That in *vertex* positions, the presence of the ear at the pubes proves that the head is already in a favorable oblique occipito-anterior position, becoming more and more so as the os occipitis comes more and more within contact, although the ear may not have left the symphysis.
3. When the occiput is fairly under the arch of the pubes in the last stage, the long diameter of the head will be found to be accurately in the long diameter of the outlet; the two lambdoidal sutures being evenly one on each side of the symphysis, and the anterior fontanelle exactly on the raphe of the perinæum, as described by all writers except Nägele, and those who follow him.
4. That in this last position the ears are at each acetabulum, rather than at each ilium, as taught in books.
5. That the first and second most frequent positions of the vertex are, in the majority of cases, the converse of each other, as taught by nearly all writers, except Nägele.
6. That in his grand discovery of the universality of *bregmato-cotyloid* positions in the second position, he has deceived himself, by not reversing all the conditions, both of the patient in her position, and of the examining hand of the accoucheur.
7. That Nägele, in maintaining that his predecessors are all wrong in this matter, has deliberately confounded mere bregmato-cotyloid with *fronto-cotyloid* positions, the latter being always intended by writers, though they may have loosely denominated them presentations or positions of the *vertex*.
8. And that, therefore, Nägele is right in maintaining that the normal progress of the labour in bregmato-cotyloid positions, as in all true *vertex* ones, is for the occiput to make its way to the arch; and that quite as easily, *cæteris paribus*, as when the occiput lies originally most forward.
9. That there are only *two* positions of the *vertex*; that is, only two ways in which, in *vertex* presentations, the head enters the pelvis, and makes its way to the outlet.
10. That in all, or nearly all, presentations of the *vertex*, the occiput will surely come to the arch of the pubes by a natural and necessary process; and that whether the *vertex* presentation be bregmato-anterior or bregmato-posterior originally.
11. That the cases which terminate with the face or forehead at the pubes, are original positions in which the uterine efforts are so per-

versely directed, that the forehead gets down into the pelvis during the first stage.

12. That, in that first stage, the ear is usually at the symphysis, as it is also in vertex presentations.

13. That in these perverse cases, which are usually *bregma* presentations, the ears will really occupy opposite parts of the pelvis, the head lying at first with its long diameter in a transverse position across the pelvis.

14. So that some of them may terminate with the occiput at the arch, after a very hard labour.

15. But the original perverseness in the direction of the uterine efforts, which has placed the head in this unfavorable position, continuing, the anterior or frontal end of the head will frequently pass first to the floor of the pelvis, and then come forward to the arch of the pubes.

16. That Nägele, on his own showing, had never seen a genuine case of true *fronto-anterior* position, incredible though it may seem; at any rate, such a case as is described by nearly all writers, and as is met with continually in practice. He decidedly ignores all such cases.

17. That Nägele is quite as wrong in maintaining that all first positions are originally *occipito-cotyloid*, as that all second positions are originally *bregmato-cotyloid*; bregmato-cotyloid positions, in the former class of cases, being common enough, and having been overlooked through the method of examination.

18. But that most of the bregmato-cotyloid positions met with are merely instances of a kind of *deception tactus*.

19. For it is only necessary to place the patient on her other side, and to use the other hand in examining, in order to be convinced that the first and second positions of the vertex are the converse of each other in *every respect*.

20. And that, although there may be quite sufficient in the patient's position to account for this *deception*, we may be justified in taking into consideration, also, the deceptive impression conveyed to the finger, when it is passed *blindfold* from one point to another of a globular surface along a line ordinarily looked upon as a straight one, lying over that *globular* surface.

21. That it is no wonder that disputes and discrepancies should have arisen among authors, when we find one set speaking of presentations of the "vertex," and meaning presentations of *any part of the whole cranium*; while another set, like Nägele, speak of "cranial positions," meaning positions of the *vertex* exclusively.

22. And finally, that the dispute between Nägele, and those whom he so utterly condemns as guilty of *ignorance* ('*Unkunde der Art und Weise*', &c.), is something like the quarrel between the two knights about the shield which was gold on one side, and silver on the other.

These are points which will have to be subjected to further experience, and a final decision in many of them may be deferred for some time; but of this there can be no doubt even now, and that is, that Dr. West has furnished evidence in favour of his opinions, of which it is not easy to overrate the importance.

On Sugar in the Urine of Women during Nursing and occasionally during Pregnancy. By Dr. HIPPOLYTE BLOT. ('Bull. Gén. de Ther.'; and 'Dublin Hospital Gazette,' November 15th, 1857.)

It appears from these remarks that sugar is a normal constituent in the urine of all women in childbed, of all women while nursing, and of a certain number even during pregnancy. At any rate Dr. Blot has found that the urine under these circumstances (and M. Rayer and M. Claude Bernard appear to have been satisfied with the evidence) has presented all the characteristics belonging to urine containing sugar,—reducing, that is to say, the copper in the cupro-potassic test of Fehling; turning brown when boiled with solution of caustic potass or lime; yielding alcohol and carbonic acid on fermentation; and causing polarized light to deviate to the right.

"In all pregnant women (forty-five times out of forty-five women examined)," says Dr. Blot, "it is at the moment the milk secretion commences that the sugar makes its appearance in sufficient quantity to be detected. In many women it appears only at this epoch; in some it appears sooner, but usually in very small quantity."

"If the secretion of milk continues, sugar continues to be passed in the urine with certain daily variations to be afterwards explained.

"When the secretion of milk is abundant, the proportion of sugar is, in general, great; when the milk is scanty, the urine contains little sugar; thus an examination of the urine may serve, in some degree, to indicate the value of a nurse. If the milk secretion is diminished or dried up from any cause whatever, but especially by the development of any morbid state, the sugar diminishes, and completely disappears; if the health improves, and the milk returns, the sugar reappears in the urine. Lastly, the urine continues to contain sugar so long as the secretion of milk persists. I have found a very appreciable quantity in a woman who continued to give milk for twenty-two months. It is unnecessary to say that such persons present no symptoms of diabetes; on the contrary, that in general the better the health, the more rich in sugar is the urine.

"When lactation ceases, the sugar disappears from the urine; quickly in women who do not nurse, more slowly in those who having nursed begin to wean their children. In the latter, the disappearance of the sugar offers some peculiarities—thus, I have happened to find it one day and not the next, and yet detect it again on the third; but it constantly occurs that the amount of sugar is reduced to a very small proportion from the time when the tumefaction of the mammary fluid consequent on weaning has subsided. From these considerations it seems impossible not to conclude that there is a close connection between this physiological glucosuria and the secretion of milk. I have already stated that the quantity of sugar varies in different individuals, and at different periods of lactation. I now add, that it is ordinarily present in much smaller quantities than in diabetes. The quantity which I have obtained from different specimens varied from 1, 2, even up to 12 parts in 1000.

"Among women during pregnancy, sugar was detected in the urine of

about one half of those observed ; I believe though I cannot positively affirm the fact, that this peculiarity was met with when the sympathetic phenomena of pregnancy, as regards the mammae, were very well developed ; it was wanting, on the contrary, when the mammae remained, so to speak, indifferent to what was going on in the uterus.

" This passing of sugar in the urine during lactation, so easily recognised in women, I naturally concluded took place in other mammalia, and, indeed, I have observed the phenomena in the cow. In short in nine observations made on animals of this sort, I have detected the presence of sugar in nine, that is in all observed."

IV.

REPORT ON MATERIA MEDICA AND THERAPEUTICS.

A treatise on Therapeutics and Pharmacology; or, Materia Medica. By GEORGE B. WOOD, M.D., President of the College of Physicians of Philadelphia, Professor of Medicine in the University of Pennsylvania, Senior Physician to the Pennsylvania Hospital. (In 2 vols., 8vo, Philadelphia, Lippincott; and London, Trübner, 1856, pp. 840 and 901.

FOR a period of about thirty years Dr. Wood has been actively engaged in teaching *materia medica* and *therapeutics*, first as a private lecturer and afterwards as professor in the Philadelphia College of Pharmacy and the University of Pennsylvania; for twenty years he has held the office of physician to the Pennsylvania Hospital; and, in addition to these high qualifications for a writer upon *materia medica* and *therapeutics*, he has that of being one of the authors of the United States Dispensatory. We, therefore, expect a work of a high class from such a man, and in this expectation we are not disappointed.

It is, in our opinion, a great recommendation of Dr. Wood's treatise that the subject in it is treated upon a physiological or *therapeutical* plan, and not upon the alphabetical or natural history plan. It is, no doubt, a very difficult matter to invent a plan which shall be free from serious objections, and in the present state of *therapeutical* and physiological knowledge such an invention is manifestly unattainable; but we prefer an imperfect plan to none, or to the natural history arrangement, which, so far as *therapeutics* are concerned, is next to none. Dr. Wood's plan, however, has much to recommend it.

Remedies, according to it, are divided primarily into those which operate upon the system, and those upon extraneous bodies accidentally contained within the system. The former division embraces the great body of remedies; the latter includes only two small classes, which are retained for the sake of practical convenience; as it is desirable that the physician should have the medicines belonging to them associated together in his memory.

I. *Systemic Remedies.*

Some remedies extend their action throughout the whole living system; others, operating upon one or more of those functions, as the

circulatory and nervous, which pervade the body, are apparently felt in all parts of it, though not strictly universal in their direct influence. All these may be denominated *general remedies*. Another large division act specially on some one part or organ, or, if they affect the general system, do so indirectly or secondarily. These may be called *local remedies*; and thus we have the basis of the first subdivision.

A. General Remedies.

The general remedies are necessarily either *stimulant*, *sedative*, or *alterative*; that is, either elevate, depress, or alter the systemic actions. These three sets constitute the second subdivision.

I. *General stimulants*.—If the operation of stimulant substances be closely observed, it will be noticed that, while some are slow, moderate, and lasting, others are, on the contrary, quick, energetic, and proportionably brief in their action; though the two sets run together by almost insensible gradations. This difference of operation was made, by Dr. Murray, of Edinburgh, the basis of a division of the general stimulants into two distinct sets, which he named respectively *permanent* and *diffusible stimulants*. Though these terms are neither of them very accurately expressive of the distinctive characters of the two divisions; yet it may not be easy to find better, and it is advisable not to adopt new names unless upon some real ground of preference. Dr. Wood has, therefore, admitted this division with the nomenclature.

A. *Permanent stimulants*.—There is a very striking distinction between the permanent stimulants; one section confining their direct influence to the vital function of organic contractility, the other operating upon the vital functions generally. The first division is very appropriately denominated *astringents*, the second less appropriately *tonics*. They constitute two of the ultimate classes of remedies.

1. *Astringents* are medicines which produce contraction of the living tissues.

2. *Tonics* are characterised by their general stimulating influence over the functions, operating slowly, moderately, and somewhat durably, either directly through the circulation, or secondarily through the digestive function.

B. *Diffusible stimulants*.—Some of these appear to be universal, such as heat and electricity; but the greater portion, and perhaps all which come strictly under the denomination of medicines, exhibit a special tendency to one or the other of the two great pervading systems or apparatuses of the body, the circulatory, namely, and the nervous. As those which have a tendency to the circulation operate directly rather upon the arterial than the venous side of it, Dr. Wood names them *arterial stimulants*. Those acting specially on the nervous system may be called *cerebro-spinal stimulants*.

1. *Arterial stimulants* are scarcely susceptible of further profitable subdivision, and therefore constitute one of the ultimate classes. They are characterised especially by their property of increasing the action of the heart and arteries, and, along with this effect, and probably

consequent upon it, of causing an elevation of the animal temperature.

2. *Cerebro-spinal stimulants*.—Dr. Wood does not wish, by the use of this term, to intimate that the remedies so called act exclusively on the brain and spinal marrow; they may possibly, and probably do, in some instances, affect the ganglionic system, and, indeed, the whole nervous substance wherever they may meet with it. There is a marked difference between the members of this subdivision. Whilst some appear to operate equally upon the whole nervous system of relation, showing no special influence over the proper cerebral functions; others act with great energy on the brain, as evinced by their power of deranging sensation, voluntary motion, consciousness, and the various intellectual and emotional functions. The former he denominates *nervous stimulants*, the latter *cerebral stimulants*. Besides these two sets of cerebro-spinal stimulants, there is at least one medicine which acts especially and powerfully on the spinal marrow, and for which a distinct class may be formed under the name of *spinal stimulants*. These three are all ultimate classes.

a. Nervous stimulants, characterised by a special but equable influence over the nervous system, generally stimulate in some degree, though not necessarily, the circulation also. They are sometimes called *nervines*, and not unfrequently *antispasmodics*.

b. Cerebral stimulants, with more or less influence on the circulation, and sometimes a powerful influence, are peculiarly characterised by their control over the special cerebral functions. They are equivalent to the *stimulant narcotics* of other writers, and embrace some of the most energetic articles of the *materia medica*, such as alcohol and opium.

c. Spinal stimulants act specially, so far as their operation is known, on the reflex motor function.

II. General sedatives.—These are remedies which directly depress the vital functions. While a few operate universally, as cold and water, most of them, like the corresponding stimulants, act especially or exclusively on one of the two great systems, the circulatory, namely, and the nervous; some prominently affecting the former, and therefore denominated *arterial sedatives*, others the latter, and named *cerebro-nervous sedatives*.

1. *Arterial sedatives* constitute one of the ultimate classes. They act mainly, if not exclusively, in their primary influence, upon the heart and arteries, without any direct effect on the cerebro-spinal functions. As, among the results of the circulatory depression, is a reduction also of the temperature, they are frequently called *refrigerants*.

2. *Cerebro-spinal sedatives*.—These may be advantageously divided, like the corresponding subdivision of stimulants, into the *nervous* and *cerebral*, which form ultimate classes.

a. Nervous sedatives are such as reduce generally the nervous functions, without any special reference to the brain. They uniformly, either by a conjoint primary action, or secondarily through their in-

fluence on the nerves, reduce the force of the circulation also. They are usually designated as *sedative narcotics*.

b. Cerebral sedatives are remedies which, while they depress the circulation either primarily or secondarily, exert a special and marked influence, of a sedative character, on the cerebral functions. Like the preceding class, they would rank with the medicines usually known as sedative narcotics.

III. General alteratives.—These are remedies which insensibly change the functions or organization, without any necessary elevation or depression of the vital actions, and the influence of which is mainly recognised by their effects in disease. They may be stimulant or sedative, and they may produce various local effects which would rank them in other classes; but it is not through these that the special curative effects are produced, which entitle them to the name by which they are distinguished. Knowing so little of their mode of action, we are not possessed of grounds for subdividing them, and they therefore rank with the ultimate classes.

B. Local Remedies.

Dr. Wood does not include in this class, in reference at least to their peculiar and characteristic properties, the general remedies which may sometimes be made to act locally by confining them to a particular part; as opium, for example, and belladonna, both of which are sometimes applied to the surface, with the view of affecting exclusively the neighbourhood of their application. The division includes only remedies which either have a special direction to some particular organ or part of the body, to whatever portion of it they may be applied, or which, if possessed of general powers, are employed locally for some effect different from the general; as when potassa, for instance, is used as an escharotic, cantharides for blistering, and mustard as a rubefacient, which effects are not incident to their internal use as medicines.

With a very few exceptions, all the local remedies are more or less stimulant; and the possession, therefore, of this property, or that of depression, does not constitute a sufficient ground of distinction between them. Consequently, some other basis of classification must be sought for; and it has appeared to me that they might be most conveniently arranged, according as they are employed to effect the functions, or to change the organization, or to act merely as mechanical agents.

I. Local remedies acting on the functions.—The subdivisions of these are all ultimate classes of medicines, and are as follows:

1. *Emetics*, which operate on the stomach, producing vomiting;
2. *Cathartics*, which operate on the bowels, producing their evacuation downward;
3. *Diuretics*, which act on the kidneys, increasing the secretion of urine;
4. *Diaphoretics*, which act on the skin, causing perspiration;

5. *Expectorants*, which act on the lungs, causing expectoration ;
6. *Cholagogues*, which act on the liver, increasing the secretion of bile ;
7. *Emmenagogues*, which act on the uterus, exciting, increasing, or restoring the menses ;
8. *Uterine motor-stimulants*, which favour uterine contraction ;
9. *Sialagogues*, which increase the secretion of saliva ; and
10. *Errhines* or *sternutatories*, which operate on the nostrils, causing an increased secretion, and sneezing.

II. Local remedies affecting the organization.—The subdivisions of these are also ultimate classes, and are as follows :

1. *Rubefacients*, inflaming the skin ;
2. *Epispastics*, producing blisters ; and
3. *Escharotics*, destroying the life of the part, and producing a slough.

III. Local remedies acting mechanically.—These include, besides the various measures enumerated under the head of " Mechanical Influence," the following classes of medicines :

1. *Demulcents*, bland viscid liquids, which cover surfaces and protect them from irritation, or mingled with acrid substances obtund their acrimony ;
2. *Emollients*, which soften and relax ;
3. *Diluents*, which dilute the fluids of the body ; and
4. *Protectives*, which operate by covering the surface, and preventing the contact of the air.

II. Non-systemic Remedies.

These are remedies acting on bodies foreign to the system, but within it. They embrace the two ultimate classes of

1. *Antacids*, which neutralize acid in the stomach or elsewhere in the system ; and
2. *Anthelmintics*, which favour the expulsion of worms from the bowels.

Dr. Wood has divided his treatise into two parts : in the first, he considers the questions of general therapeutics and pharmacology, namely, the operation, the effects, and the application of medicines, and after this he proceeds to explain the classification which has just been given ; in the second part, he treats of the various questions belonging to special therapeutics and pharmacology, according to this classification. And reviewing the whole we may say that we find everywhere abundant evidence of patient investigation and sound judgment.

On the Composition of Food, and how it is Adulterated, with practical Directions for its Analysis. By W. MARCET, M.D., F.C.S., Licentiate of the Royal College of Physicians, Assistant-Physician and Lecturer on Physiological and Pathological Chemistry to the Westminster Hospital, &c. (London, John Churchill, 1856.)

The subject is divided by our author into three parts, comprising the vegetable, animal, and mineral kinds of food, to which are appended the various means for its preservation. The solid vegetable food includes the farinaceous and saccharine substances, as the different species of flour, sugar, and coloured articles of confectionery. The spices which are here noticed embrace black and white pepper, cayenne pepper, mustard, ginger, turmeric, cinnamon, cassia, nutmeg, mace, cloves, allspice, mixed spices, and curry powder.

Fluid vegetable food is divided into—1. Infusions of various substances, as tea and coffee. 2. Fermented beverages, which are wine, beer, spirits, and vinegar.

The animal food includes meat among the solids; and the fluid comprises milk, cream, &c. The mineral varieties embrace common salt, chloride of sodium, and water.

The preservation of food is accomplished by means of cold, exclusion of air, drying, salting, with sugar and vinegar.

Such is the manner in which Dr. Marcet has arranged the materials placed at his command, and we shall now present to our readers some of the most striking features that evidently present themselves to our notice.

When describing the methods for the analysis of flours the author recommends a process somewhat similar to that employed for the analysis of blood, the starch being determined in flour not unlike the globules in blood.

The account of the method in question is as follows:

"Having convinced himself of the presence or absence of the normal constituents of the flour under examination, the analyst is to continue his investigation with regard to the *quantitative* composition of the meal; he now requires a balance, but a very delicate instrument is *not* absolutely necessary. The process to be followed is much the same as that recommended for the *qualitative analysis*; a weighed sample of the flour, say about thirty grains, is dried in the water bath, and re-weighed, the difference showing the quantity of water present. The same sample of flour, or another weighed quantity, if preferred, is now tied up in calico, and expressed under distilled water with the thumb and index finger until it does not yield any more starch. This operation must be very carefully performed, lest any of the fluid should be lost; it will be found necessary to wash the flour with small successive quantities of pure water, collecting the *whole* fluid into the same vessel. This part of the analysis will last about two hours; when finished, the analyst may throw a little pure water on his fingers with a pipette, and add this fluid to the main solution. The string binding the calico bag being now un-

fastened, the *gluten* will be found comparatively pure, and by scraping the cloth carefully with a blunt knife, it may be conveyed to a watch-glass, to be dried on the water bath and weighed.

"The weight of *gluten* or *fibrin* obtained by this method is rather below the true estimate; the result would be somewhat more accurate by weighing the dried calico without and with the dry fibrin, and calculating the difference between the two weights, care being taken to wash the calico thoroughly before using it.

"The *starch* is determined as follows: Ascertain the weight of the fluid obtained by the above process, and allow it to stand undisturbed for some hours in a beaker covered with a glass plate, to enable the starch to subside; then, let a certain amount of the clear liquid be decanted in a weighed capsule, and weigh the capsule again with the fluid; it is next evaporated to dryness on a water bath, the residue obtained thoroughly dried and then weighed, the quantity of water being thus determined. Whilst this operation is proceeding, the analyst will evaporate also to dryness the remainder of the fluid containing the starch, whose weight has already been ascertained, and the residue, when dry, is also to be weighed. The amount of the starch may be calculated by the proportion. The weight which the clear fluid lost by evaporation is to that of the solid residue it contained as the weight of the water lost by evaporation of both fluids is to x , or the weight of the whole residue soluble in water; by calculating this proportion, and subtracting the result from the sum of the weight of both residues, the *amount of starch* will be obtained. I have employed, repeatedly, this method, and believe it to give correct results."

Independently of giving a series of minute directions for determining by chemical and microscopical operations, the various organic and inorganic substances entering into the composition of flour and its adulterations, the author has drawn up the following table, for the purpose of aiding the analyst in his examination of flour.

With regard to the impurities of cane sugar, Dr. Marcet classifies them in accordance with the methods he employs for their detection, thus:

"1. The *mechanical impurities*, or those which do not dissolve in a solution of sugar, and can be seen with the microscope, as fragments of cane sugar, blood, *an animalcule peculiar to sugar*, fungi, woody fibres, starch globules, sporules of fungi, carbonate of lime, and sand.

"2. *Chemical impurities*, or those dissolving in a solution of sugar, and in this form escaping the scrutiny of the microscope, which are grape sugar or glucose, and vegetable albumen."

Gluten Nature determined by drawing into threads.

A **Solution**, $\left\{ \begin{array}{l} \text{Alum (adulteration), precipitated by the addition of ammonia and chloride of ammonium, with the application of heat.} \\ \text{Albumen, precipitated or coagulated by boiling.} \end{array} \right.$

containing $\left\{ \begin{array}{l} \text{Sugar. Gives an orange-coloured precipitate with sulphate of copper and potash.} \\ \text{Gum or Dextrine, transformed into sugar by boiling with dilute sulphuric acid.} \end{array} \right.$

FLOUR, kneaded in water and strained through a cloth, yields—

$\left\{ \begin{array}{l} \text{A Deposit, submitted to microscopic examination for the detection of} \\ \text{Other adulterations: Other leguminous Seeds} \end{array} \right.$

Other **adulterations**, indicated by the microscope and chemical reagents.

Potato Starch	<i>Starch, microscopical examination</i> —Small amorphous specks.
	<i>Chemical examination</i> —Dissolved by the addition of dilute hydrochloric acid, with the formation of small bubbles, and precipitated crystallised by phosphate of soda and ammonia.
Carbonate of Magnesia	<i>Microscopical examination</i> —Small amorphous specks.
	<i>Chemical examination</i> —Dissolved by the addition of dilute hydrochloric acid, with the formation of small bubbles, and precipitated by ammonia and oxalate of ammonia.
Carbonate of Lime	<i>Microscopical examination</i> —An organized structure.
	<i>Chemical examination</i> —Not entirely soluble in dilute hydrochloric acid.
Bone-dust	<i>Microscopical examination</i> —Small amorphous particles.
	<i>Chemical examination</i> —Not entirely soluble in dilute hydrochloric acid. The ashes of the flour leave a black stain on silver when burnt in blowpipe flame with carbonate of soda and borax.
Sulphate of Lime	<i>Microscopical examination</i> —Large amorphous particles, of an angular form.
	<i>Chemical examination</i> —Insoluble in hydrochloric acid; an opaque bead when ashes of flour are fused in blowpipe flame with microcosmic salt.
Sand	<i>Microscopical examination</i> —Amorphous particles.
	<i>Chemical examination</i> —A blue colour produced when ashes are treated with nitrate of cobalt and fused with blowpipe.
Clay	

In the following table the author has succinctly explained the most convenient methods for the examination of sugars.

1. Mechanical Impurities.	1. Fragments of Sugar-Cane	{ Microscopical examination—Cells and bundles of woody fibres. Chemical examination—(Not required).
	2. Blood	{ Microscopical examination—Small round globules, of a yellowish colour. Chemical examination—A scum or coagulum appears when the solution is boiled. It is very apt to turn acid when left in a warm place.
	3. Animalcules	{ Microscopical examination—The sugar insect, or <i>Acarus sacchari</i> . Chemical examination—Ammonia is evolved from the presence of nitrogen when the deposit is heated with lime. No coagulum on boiling the solution, unless albumen be also present.
	4. Woody Fibres (accidental)	{ Microscopical examination—Fibres (of the fir) exhibiting externally a number of small rings or circles. Chemical examination—Transformed into grape sugar when boiled with dilute sulphuric acid.
	5. Starch Globules	{ (See "Flour and its Adulterations.")
	6. Sporules of Fungi	{ Microscopical examination—Minute bodies of an oval form, becoming developed into fungi when the solution is left in a warm place. Chemical examination—Solution of sugar ferments, and turns acid very readily.
	7. Carbonate of Lime	{ Microscopical examination—Light amorphous particles floating on the solution. Chemical examination—Dissolved with the evolution of carbonic acid, when mixed with hydrochloric acid on the microscope glass.
	8. Sand	{ Microscopical examination—Small bodies, having a sharp angular structure. Chemical examination—Insoluble in dilute hydrochloric acid.
2. Chemical Impurities.	1. Grape Sugar	{ Chemical examination—Yields a red precipitate with the copper test. For rough quantitative analysis, treat the sugar with alcohol, evaporate to dryness, and weigh the residue.
	2. Vegetable Albumen	{ Chemical examination—An amorphous deposit appearing when the solution is boiled, and insoluble in nitric acid.

When on the subject of *Tea*, and its adulterations, the author enters into some details as to the process adopted by the Chinese for preparing the tea-leaf; he describes afterwards, at some length, the adulterations of tea, and the methods employed for their detection.

With respect to the adulterations of coffee, Dr. Marcelet has drawn

up a tabular abstract of the able report of Drs. Graham, Stenhouse, and Campbell, published by those gentlemen in the 'Quarterly Journal of the Chemical Society,' displaying, at one view, a very interesting and useful account of their investigations on the mode of detecting vegetable substances mixed with coffee for the purpose of adulteration.

When describing the injurious effects of putrid meat, our author remarks—

"The chemical changes thus induced might be divided into two stages; the first, which is attended with a peculiar well-known taste and odour, though the eye fails to detect it, and the second stage, at once determined by the sight, when small insects are seen making their way inside the meat, and converting it into a disgusting mass of rotten flesh. In both stages of decomposition meat has become unwholesome, and decidedly objectionable as an article of food. It is a well-known fact, that meat preserved in the form of sausages, by exposure to smoke, becomes a violent poison if allowed to undergo the first stage of decomposition, previous to its being smoked. M. E. Van der Corput* states that, by official returns in Wurtemberg alone, during fifty years, more than 400 cases of poisoning with such meat have occurred, and 150 deaths.

"This poisonous effect of bad sausages was observed so far back as 1735. Dr. Kerner collected 135 cases from 1793 to 1822, of which 84 were fatal. Dr. Weiss, of Wurtemberg, collected 19 cases in eight months, of which 6 died. In regard to the symptoms attending this kind of poisoning, they occur, in general, twelve or fourteen hours after having taken the food; there is much oppression, sharp pains in the stomach, nausea, vomiting, and great thirst, with irregularity of pulse, coldness of extremities, and finally syncope. Other symptoms of a nervous character accompany the latter, as paralysis of the muscles of the pharynx and eyelids, a croupy cough, and peculiar dryness of the mucous membrane. The treatment must depend on the most prominent symptoms.

"Not only are sausages in a state of decomposition liable to produce disease and death, but also cases of poisoning have occurred from pork-butcher's meat under similar circumstances; thus, in 1832, M. Chevalier, of Paris, had to make a report upon serious cases of poisoning from pork-butcher's meat; no metallic poison was found in the meat, but it was noticed to be covered with a peculiar mouldiness. Many other cases of poisoning in France with mouldy meat are recorded. Rancid fats and decayed cheese have also given rise to symptoms of poisoning.

"It is singular and important to observe, that though putrid meat be decidedly unhealthy, still meat from diseased animals appears quite *innocuous*, which is shown to be the case from experiments made at the Veterinary School of Alfort, by MM. Hussard, Renault, and others." And as a proof of the accuracy of this opinion, Dr Marcey remarks, "that the celebrated French physiologist and pathologist, M. Flourens, relates that, during the fatal period of 1789, the poor of St. Germains and of Alfort, ate 700 or 800 horses, which were afflicted with glanders or farcy, without suffering any inconvenience."

Pure water is thus defined by Dr. Marcet, who gives the following as its principal characteristics :

" 1. Water must be perfectly colourless and transparent, leaving no deposit when allowed to stand undisturbed. 2. It must be quite devoid of smell. 3. When litmus-paper is immersed into the water, the colour of the paper must remain unaltered. 4. The water when boiled must not become turbid. 5. About half a table-spoonful of the fluid being evaporated to dryness on the spirit-lamp, there must be a slight residue left at the bottom of the spoon, not turning black, from organic matters. 6. The residue obtained by evaporating to dryness a sample of the water in a porcelain cup, upon the tea-urn, must not become black on the addition of a solution of sulphuretted hydrogen."

Dr. Marcet has noticed an interesting fact, showing clearly the origin of the deposit which occurs in the water of the Thames, taken at Westminster Bridge; under the microscope, this deposit reveals the presence of small masses of amorphous matter, with one or more bodies resembling vegetable hairs imbedded therein; the same hairs and amorphous masses being found to exist in fresh fæces, when submitted to microscopical examination.

Dr. Marcet enters, to some extent, on the various methods employed for the preservation of food, as *sulting*, *smoking*, &c., which our limits preclude us from quoting. We cannot, however, omit noticing the plan adopted by Dr. Verdeil, of Paris, which is perfectly unobjectionable in a sanitary and practical point of view, and has the advantage of preserving food in a fresh condition for a great number of years, though freely exposed to the atmosphere; and likewise of reducing it, by desiccation, to about one fifth of its original bulk. Dr. Verdeil's system is as follows :

" The vegetables intended for preservation in the Paris factory, are first cut into small pieces, mostly by machinery, and then transferred to a number of shallow wire-work trays. When a set of these trays is full, they are placed on a stand, which moves on a little railway, and can be pushed into an iron chest; a contrivance not unlike that employed in washhouses to convey wet linen into the drying chambers. These iron chests may be filled with steam, under a pressure of four or five atmospheres; and as soon as the stand is rolled in, the door is shut, hermetically fastened by means of a screw, and then steam is freely admitted; by this means a temperature is rapidly obtained, sufficient to coagulate completely all the albumen of the vegetable, none of the constituents of the food being lost; five minutes suffice for this operation. The next step is the drying. The steamed vegetable is rapidly conveyed on the trays into a series of wooden chambers, where a strong draught is obtained by means of ventilators revolving very rapidly with steam-power; the air admitted into the drying chambers is made to pass first through iron pipes, maintained at a very high temperature by a furnace, so that the desiccation is effected by hot air; the whole process takes so short a time, that from five to eight hours suffice to dry a large quantity of vegetables; they are afterwards set aside, ready for the market."

Before closing this short notice, we beg to observe that our author has borrowed somewhat freely from Dr. Hassall's valuable book; but, at the same time, he has taken particular care to give this work, in every respect, the credit which it deserves.

On abstinence from the Oleaginous Articles of Food as a cause of Phthisis.

By Dr. CHARLES HOOKER, of New Haven, Connecticut. ('Trans. of the Amer. Med. Assoc.,' vol. viii, Philadelphia, 1855.)

In a report on the subject of diet in dyspepsia, phthisis, typhus fever, dysentery, &c., Dr. Hooker says, that careful observations for many years have led him to conclude that, "*of persons dying of phthisis between the ages of 15 and 45, nine tenths at least have never used fat meat;*" and also that, "*of all persons between the ages of 15 and 22 years, more than one fifth eat no fat, whereas, of persons at the age of 45, all excepting less than 1 in 50, habitually use fat meat.*" Dr. Hooker also remarks that, "*the few patients who have phthisis after an habitual use of fat meats, are little, if any, benefited by cod-liver oil.*" These remarks are of great interest, and they ought at once to be confirmed or refuted; for if they are confirmed, a child ought no longer to have the option of taking or refusing its proper allowance of fat.

On the use of Glycerine as a nutrient and alterative. By Dr. W. LAUDER LINDSAY, of Perth. ('Edinburgh Medical Journal,' June and September, 1856.)

The following remarks are from an elaborate paper upon the application of glycerine in medicine and in the arts. (In *medicine*, Dr. Lindsay considers glycerine as a nutrient and alterative internally, as an emollient and demulcent externally, and as a solvent vehicle in pharmaceutical preparations; in the *arts*, he considers it as an anti-septic, for the preparation and preservation of food, and for toxidermic purposes, and as used in photography, perfumery, &c., and for fuel.)

"In order to test its nutrient properties, its power of increasing the weight, and improving the general vigour of body," says Dr. Lindsay, "I used glycerine internally myself, to the extent of two or three tea-spoonfuls daily for several weeks. For the space of a month I took two tea-spoonfuls every morning in coffee, which I found to be the most palatable made of using it. My diet and daily occupations were the same as before I began to take it; my exercise, in consequence of protracted bad weather, rather less than usual. The result was a gain of weight to the extent of $1\frac{1}{2}$ lb. at the end of the first fortnight, and of an additional $\frac{1}{2}$ lb. at the termination of the second—in all, an increase in weight of 2 lb. On discontinuing the glycerine, my weight gradually fell: and after an interval of six weeks, during which I have not used it, I find myself 1 lb. lighter than before I began to take it daily. It produced no other appreciable effect. I have tried it as a dietetic remedy along with various articles of food, and in divers combinations. It is so readily miscible with fluids of all kinds, that there can be no difficulty in its administration. The pure concentrated glycerine of Price's Company is too pungently

sweet to be used alone or undiluted ; and I may here remark that, as a general rule, whether for internal administration, or for external application, it ought to be diluted, the degree of dilution being regulated by the practitioner, according to the purpose for which he prescribes it. I have sometimes sweetened coffee with it instead of sugar. Coffee so made, however, has a somewhat peculiar taste, which might prove objectionable to some fastidious stomachs ; but when it is sweetened only partially by glycerine, or when glycerine is super-added to ordinary sugar, the beverage is exceedingly pleasant, and quite free from any peculiar flavour or taste. It might be used daily to a considerable extent, when thus mixed with coffee, or chocolate ; it is perfectly miscible, and does not betray its presence by floating oil-globules or otherwise. In such circumstances, it behaves precisely like a syrup. Tea, to which glycerine has been added in a similar way, is much more apt to be flavoured by it, but the taste is not likely to be regarded generally unpleasant, unless it is added to the extent of two or three tea-spoonfuls per cup. It also sweetens milk or cream very pleasantly. A mixture with water is very palatable, and is, undoubtedly, its most ready and cheap mode of administration.

" I carefully observed its effects as a nutrient and alterative, in eight patients—four males and four females—to whom it was given in doses of two or three tea- or table-spoonfuls daily, for the space of a month. They were weighed at intervals, to ascertain their gain or loss of flesh ; for I found that apparent physical improvement was not a reliable criterion of real physical growth ; that a most marked amelioration in the general health did not always coincide with increased weight of body. All the patients, before taking it, were more or less anaemic, emaciated, and feeble : in all the diet, exercise, and occupations, were otherwise the same. At the end of the month, all of them *appeared* greatly improved in their general condition ; they seemed plumper, and stronger, and the countenance, in some, was even ruddy. In one case—a female—there was a large and fiery carbuncle over the sacrum, which was opened by crucial incision in the ordinary way ; in another case—a male—there was a number of abrasions and ulcerations on different parts of the body, the result of self-mutilation by friction against walls, or by picking with his finger nails. The carbuncle, in the one case, and the ulcers and abrasions in the other, disappeared, or were healed, during the use of the glycerine. I shall here guard myself against confounding the *propter hoc* with the *post hoc*. A most marked amelioration *followed* the use of the glycerine, and *apparently in consequence of* its use. But further experiments will be necessary to establish the accuracy of the latter statement.

" I have used glycerine internally in a variety of affections, in combination with various alteratives and tonics, such as iodine, iodide of potassium, quinine, and iron, or as the basis of expectorant or demulcent mixtures. I have found it to answer extremely well as a solvent, or suspending agent, or a vehicle. All the alteratives or tonics which have recently been combined with cod-liver oil, might be administered in a much more agreeable form, if dissolved or suspended in glycerine. Such are iodine and quinine, separately or conjoined ; the iodide, lactate, and bromide of iron ; the proto-iodide, biniodide, and bichloride

of mercury; the iodides of arsenic and sulphur; and the valerianate of zinc. By the majority of patients to whom it was given as a nutrient, it was much relished.

"Its sweet taste would probably render it a favorite with children, in prescribing for whom it is frequently necessary to consult the caprices of the palate. There are rare exceptions, however, to its general acceptability. A patient of Dr. Stirling's—a man of about sixty, labouring under chronic asthmatic bronchitis—complained, after using it in doses of three tea-spoonfuls daily for ten days, that it seriously impaired his appetite, and that he felt as if "filled with oil." It was persevered in for a few days after this sensation was experienced, but it became ultimately necessary to discontinue its use.

"The great advantages of glycerine over cod-liver oil, consist in its pleasant sweetness and its freedom from all disagreeable odour; in its ready solubility in, or miscibility with, ordinary fluids; in the absence of the principles, which in animal and vegetable oils, so frequently nauseate and purge; and in its solvent and other properties, which render it so useful as a vehicle or basis for pharmaceutical preparations. Its great disadvantage, on the other hand, as contrasted with cod-liver oil, we shall immediately see, is its present comparatively high price. Cod-liver oil frequently produces an acrid burning sensation in the throat; it is extremely difficult of digestion by many stomachs; by others, it cannot be borne at all, without generating disagreeable and even serious gastric symptoms; and, in general, nausea and purging are very frequent results of its use. These effects would appear more liable to be produced by the dark brown, than by the pale or colourless, cod-liver oils. Many of the vegetable oils have a similar tendency to nauseate or purge, such as linseed, olive, and almond oils. None of these disagreeable symptoms are likely to be produced by the use of glycerine, and have not been produced in any cases which have come under my own observation. Hence it is reasonable to anticipate, that glycerine ought to become a valuable substitute for the ordinary animal or vegetable oils used in medicine as nutrients and alteratives, in the numerous cases in which they are contra-indicated—always, of course, granting or assuming what has yet, however, to be fully proved, that it possesses true fattening properties—that it acts as a food."

Glycerine appears to have been tried somewhat extensively in phthisis as a substitute for cod-liver oil; but the results are very contradictory. Dr. Lindsay says:

"I have had no opportunity of trying its effects in phthisis, either when administered internally, or when applied by the endermic method. But experiments on its use in this protean disease, would undoubtedly serve to dispel the contrariety of opinion which at present exists. It has been remarked to me by those who have tried it, that it does not allay the phthisical cough; nor do we expect that it should, at least immediately or directly. But it appears to have proved serviceable in other strumous cases."

On artificial Digestion as a remedy in Dyspepsia, Apepsia, and their results. By EDW. BALLARD, M.D., F.R.C.S. (London, Walton and Maberly, pp. 46, 1857.)

Experiments on the action of Pepsine. By EDW. H. SIEVEKING, M.D., F.R.C.S. ('Medical Times and Gaz.', April, 1857.)

Pepsine was first introduced into the *materia medica* by Dr. L. Corvisart of Paris, and subsequent experience has gone far to confirm the expectations arising out of the original experiments. Pepsine, indeed, is undoubtedly a natural remedy in many cases of flagging and faulty digestion, though its virtues are as yet little known in this country, and therefore we are glad to have the subject brought before us in a definite form.

1. Dr. Ballard's book is full of particulars respecting the preparation, characters, the dose and mode of administration, and therapeutical effects of pepsine, and it includes also a series of illustrative cases.

The pepsine which is at present in the market is prepared in France by M. Boudault, and it may be obtained at Mr. Squire's, in Oxford Street.

"*Preparation.* The following are the directions given by M. Boudault for the preparation of this medicine. 'Take a sufficient number of rennet bags (the fourth stomach of the ruminants), open and reverse them, and wash under a thin stream of cold water; scrape off the mucous membrane, reduce it to a pulp, and macerate it in distilled water for twelve hours; filter and add to the liquor a sufficient quantity of acetate of lead, collect the precipitate, and pass through it a current of sulphuretted hydrogen; filter again, and evaporate at a low temperature, and powder the dry residue.' Pepsine thus obtained varies in transforming power, and it was necessary to obtain a medicine whose energy for equal weights should be uniform. With this view it was necessary to assume a standard dose, and this was the quantity of pepsine, which when acidulated with three drops of lactic acid, and added to fifteen grammes of water, would transform six grammes of fresh fibrin, finely cut up, and kept in a bottle at a temperature of 40° centig. for twelve hours, with occasional shaking. This quantity being ascertained, starch is added to bring this dose to the weight of one gramme. The solution of pepsine is now, as we conclude from a recent brochure of M. Boudault, not evaporated to dryness but only to the consistence of a syrup, which is mixed intimately with starch pulverized and dried at a temperature of 100° centig. In this state the whole can be reduced to powder, and a medicine of an uniform efficacy is obtained.

"There are four kinds of 'poudres nutritives,' numbered 1, 2, 3, and 4. Nos. 1, 2, 3, are acidulated with lactic acid, in the proportion of three drops to each dose of a gramme. No. 4 is neutral, or nearly so. No. 1 is the basis of Nos. 2 and 3, which, as we shall see, contain other active ingredients.

"*Characters.* Pepsine thus procured, and diluted with dry starch, is a rather coarse powder of a light brown colour, not uniform, but evi-

dently consisting of two kinds of powder, which are evenly mixed. It has a slight odour of gastric juice, and a slightly acid, saline taste. It slowly attracts moisture from the atmosphere, when exposed; but, in well-corked bottles, may be preserved for an indefinite time without losing its physiological properties. When water is added to it, the pepsine readily dissolves, the starch with which it was mixed remaining insoluble. The filtered solution possesses all the transforming power ascribed to it. It need scarcely be said that the pepsine contained in the 'poudre nutrimentive' is not chemically pure. The process of rendering it so has been followed by the destruction of its physiological properties.

"*Dose and mode of administration.* The average dose of the 'poudre nutrimentive' is about fifteen grains. This dose rarely need be exceeded. In some instances a smaller quantity may suffice, as where it is administered to infants. It may be taken dry or in solution. In the former case, the dose may be taken in a morsel of unfermented bread; in the latter it may be dissolved in the first spoonful of soup taken at dinner, provided this is cool; or it may be disguised by administration in sweetened water, &c. The principal point to attend to is, that it must be taken with, or at the commencement of the meal on which it is to act. M. Corvisart recommends the following as a formula which meets with general approbation:

"Take of pepsine 6 grammes (93 grains); dissolve for twelve hours in syrup of acid cherries, 60 grammes ($15\frac{1}{2}$ drachms); add elixir of Garus, 15 grammes ($3\frac{1}{2}$ drachms); filter.

"A more ready mode of preparing this syrup consists in first dissolving the pepsine in a little cold water, filtering, and then adding the other ingredients. The elixir of garus may be substituted by an equivalent quantity of syrup of cherries. A sixth part of the quantity is a dose. This mixture of pepsine with syrup must only be made extemporaneously; for, if preserved for a few days, the pepsine acts upon the cane sugar like a ferment, transforming it first into glucose, and subsequently into lactic acid. An advantage to the digestion may, as it appears to me, occasionally be gained by the simultaneous use, with the pepsine, of an additional quantity of lactic acid. No considerable quantity of liquid should precede, or immediately succeed a meal in which pepsine is used; and the same must be said of the drinking of the stronger alcoholic beverages.

"There is another mode in which pepsine may be used to promote the nutrition of the sick. I refer to the previous conversion, by its aid, of the food to be administered into true nutriment. There are cases of disease in which thus, alone, can sufficient support for the preservation of life be possibly introduced; cases where the use of solid animal food is urgently indicated, but in which the patient, from the dryness of his mouth, or other causes, is incapable of taking it; where nothing but liquid or dissolved nourishment can be introduced. These are cases in which medical men seek to maintain life by beef-tea, soups, juice of meat, and nutritious enemata. Now we begin a new era in the nourishment of such patients; we may now furnish them with all they require to maintain life, already digested, and in the form of liquid such as they can swallow, or such as, with improved prospects of success, we may inject into the rectum.

"*Therapeutical effects.* It may be premised, that, in availing ourselves

of the use of this medicine, the food with which it is given must be animal or nitrogenized food. It, nevertheless, does seem to operate, in some degree, upon the amylaceous ingredients of the food; upon such of them, at least, as have been previously transformed into glucose, causing the ultimate conversion of the latter into lactic acid. It is, probably, on this power that the efficacy of rennet in the treatment of diabetes depends.

"An immediate effect of the administration of a dose of pepsine in dyspepsia, is sometimes, but not invariably, noticed in the production of *appetite* which had previously been absent. A few doses, in most cases, are followed by an appetite for subsequent meals; and where but little food could be taken without disgust at the commencement of the treatment, it often happens that full meals are shortly taken with pleasure. In those instances where voracious appetite accompanies prolonged diarrhoea, from the apergia of infancy, the appetite becomes reduced, as soon as the effect of the general improved nutrition becomes marked.

"The relief and rapid disappearance of painful sensations after meals, is a more marked effect of the use of pepsine in cases of *dyspepsia*, arising out of defective or imperfect secretion of the gastric juice; and the same thing may be said of the arrest of the vomitings, which are due to the same cause; and of flatulent distensions that arise from the chemical decomposition of the aliment."

2. Dr. Sieveking's experiments were made with specimens of Boudault's pepsine,* of Trommsdorff's pepsine, and of Oberdörffer's † dried pig's stomach. Boudault's pepsine (*poudre nutritive*) is acid to the taste, and to litmus, owing to the lactic acid it contains; it is a stone-grey powder, consisting mainly of starch and *débris* of epithelium, as shown respectively by the iodine test and the microscope. Trommsdorff's pepsine is also a stone-coloured powder, caking and gritty to the touch, strongly acid to the taste and to litmus paper, and very hygroscopic; under the microscope the whole appeared composed of starch granules of various sizes, which gave a blue reaction with iodine. On addition of water the granules swelled, became ovoid, and showed faint concentric lines, with here and there a radiating fissure.

The dried scrapings of the pig's stomach also presented a stone colour, but of rather a more reddish hue; the substance was pulvillent and soft, acid to test paper, and consisting of epithelium and *débris* of animal tissue; not materially altered by the addition of acetic acid, and containing a few ovoid particles, which were blued by iodine.

"Of each of these I weighed out two specimens of four grains each, and submitted cubic pieces of hard-boiled white of egg, of twenty grains each, in half an ounce of distilled water, to their action. To one specimen of each one drop of strong hydrochloric acid was added, and the whole series was exposed to a temperature of 100° Fahr. The glasses were left for above twenty-four hours, and the following is a summary of the effects produced:

* Obtained from Messrs. Squires', the Queen's chemists.

† These two specimens were kindly supplied to me by Messrs. Hilgenberg and Schacht, of Houndsditch.

"The albumen treated with—

		Loss.
1.	Boudault's pepsine, weighed over 16 grs.	nearly 4 grs.
2.	Do. do. with hydrochloric acid, weighed under 10 grs	above 10 grs.
3.	Trommsdorff's pepsine, weighed over 18 grs.	,, 20 grs.
4.	Do. do. with hydrochloric acid, weighed over 12 grs.	,, 8 grs.
5.	Pig's stomach, weighed over 20 grs.	:
6.	Do. weighed 15 grs	5 grs.

"In the case of 2 and 4 the action was very marked, the edges of the albumen were rendered extensively clear and transparent. Nos. 1 and 3 looked as if they had scarcely been affected; No. 6 was slightly digested, but much less than Nos. 2 and 4. The albumen in Nos. 3 and 5 looked as if it had undergone no change, and it was manifest that No. 5 had even absorbed water, and had thus increased in weight. The liquid was in each case tested for albumen; feeble indications of its presence were afforded by the water of Nos. 2, 3, 4, 5, and 6.

"About a fortnight after the last series of experiments I repeated them, with nearly the same results. The same quantities of white of egg and pepsine were used, two drops of hydrochloric acid were added to one specimen of each kind, and the whole was exposed for some hours to a temperature of 110° Fahr., and the glasses shaken from time to time. At the termination of the experiment, the albumen in—

1.	Boudault's pepsine, weighed 15 grains	.	5 grains loss.
2.	Do. do. with acid	12	," . 8 "
3.	Trommsdorff	17½	," . 2½ "
4.	Ditto, with acid	17	," . 3 "
5.	Pig's stomach	21	," . 1 grain gained.
6.	Do. do. with acid	8	," . 12 grains loss.

"It is stated in my notes that the liquid of Nos. 1, 2, and 4, gave feeble indications of the presence of albumen. The albumen in Nos. 2 and 6 had become translucent to a great extent, while the albumen in the other glasses remained opaque. The discrepancy between the two serials is, that in the second the action of the pig's stomach with the acid was so much greater than Trommsdorff's pepsin, or even than Boudault's. The two sets of experiments agree in demonstrating that in all instances the solvent power of the preparations was much promoted by the addition of the hydrochloric acid; and that imperfect pepsin (as in No. 5 in each set) not only does not promote, but actually retards, digestion. We must not, therefore, allow our dyspeptic patients, on the mere strength of the pepsine we prescribe, to take a larger quantity of food in the first instance than we should otherwise order, but make certain of the peptic power of the agent in the first instance, or we may aggravate instead of relieving his complaint. It is evident also that Boudault's is a powerful and trustworthy agent.

"In submitting the above memoranda, I would only add, that the conclusions I have arrived at in relation to the therapeutic value of pepsine, corroborate those put forward by Drs. Corvisart and Ballard, and that I regard pepsine as an agent which we may in many diseases of malnutrition prescribe with great benefit to our patients."

On the subcutaneous application of Medicines. By PROFESSOR LANGENBECK. ('Wochenbl. des Zeitsch der Gegrellsch, der Aestze zu Wien,' 1856, and 'Archiv. Gén. de Méd.' March, 1857,

During the time that Alex. Wood was endeavouring to relieve neuralgia, by injecting a solution of morphia into the cellular tissue of the painful part, Professor Langenbeck has been engaged in a somewhat similar series of experiments at Berlin. In these experiments, M. Langenbeck has employed a great number of substances, and especially those which are capable of dissolving in the cellular tissue, and in the parenchyma of organs. He has, for example, inoculated along the sides of the vertebral column with strychnine in cases of spinal debility and paralysis, and the skin with veratria in lepra, pityriasis, and other cutaneous affections; he has inoculated the abdomen with quinine in intermittent fever, and the region of the heart with digitalis in palpitation and dropsy, the lower extremity of the spine with cantharides in paraplegia, the inguinal region with cubeb and copaiba in gonorrhœa, and he has even inoculated the region of the kidney with extract of squills where a diuretic was wanted. The medicine is introduced, either by a grooved needle, or else a small pledget of lint or charpie is soaked in it and applied over an abraded surface. In some instances, where a derivative or revulsive action was desired, the medicine was associated with an irritating vehicle, as croton oil or tartar emetic. No results are given.

On the Magnetism of the Body and the probable magnetic action of certain remedies. By SAMUEL RHUID, of Burley, near Otley, Yorkshire.

The researches of Faraday have shown that nearly all bodies under the influence of a powerful magnet indicate different conditions of magnetic force, severally named magnetism and dia-magnetism. The bodies thus differently affected, are named magnetic and dia-magnetic. Iron is the most powerful of all the magnetic bodies. Now nearly all animal tissues are dia-magnetic, and Sir William S. Harris says that if a human body could be balanced between the poles of a magnet it would exhibit the latter species of magnetism. But may not this great electrician be wrong in such a conclusion? may not the iron in the body tend to neutralize the opposite magnetic force? and associated with it in such an action would be the manganese, naturally combined with it in the blood, also all the nascent oxygen in the system, both magnetic bodies, while the nascent nitrogen, which exhibits neither of these two conditions, would act as zero to both these sets of bodies, and the forces connected with them.

From these considerations, may we not infer that the body is kept in a neutralized state as regards the magnetic influences of the earth and atmosphere, and if so, would not the disturbance of such equilibrium give rise to disease and functional derangement? Now to the existence of a relationship between these two sets of magnetic forces, and the phenomena of health and disease, we are further led by the

therapeutic actions of the members of these two classes of magnetic substances; for while iron is our most worthy and powerful tonic, as is also manganese when associated with it, nearly all the members of the dia-magnetic group exhibit very opposite properties.

Thus bismuth, lead, and silver are more sedative in their action; then we have the powerfully depressing sedative antimony; then the alternative resolvents, mercury and arsenic. But this subject is most strikingly illustrated by the curative properties of nickel, discovered by Dr. Simpson; these are strongly anti-periodic in cases of neuralgia, where the system will have been lowered by constant agony. Now this metal is, next to iron, the most powerful of the magnetic group, and is even capable of retaining a distinct polarity. It is further remarkable that bismuth and antimony, both of which are very powerful dia-magnetics, exhibit *very low magneto-electric energy*.

On reviewing the whole subject, there does certainly seem some ground for believing that the remedial agents found in these two groups of magnetic bodies do exercise, in some measure at least, remedial action on the body, from these peculiar properties under consideration, perhaps by tending to restore the magnetic equilibrium of the body disturbed by some morbid action, and thus to render it astatic to the earth, and in that way restore health.

Mr. Rhuid offers these remarks, not dogmatically, but rather to direct attention to a subject of great interest. For however much the question of the relationship between magnetism and the healthy body may have ceased to be made a practical inquiry among medical men, both from the difficulty of the subject and from all the absurdities of animal magnetism and electro-biology, yet it must occur to every thoughtful mind that a force which exercises such a tremendous influence on the economy of the earth, probably also on the entire universe, if the views of Faraday be true, cannot be without a very powerful one on the human body; and if so, it becomes at once a fruitful source of investigation for the practical physician; and if the subject from a point of view be successfully carried out, then it will be wrested from the hands of the charlatan who imposes on the credulous with his ideas, the more dangerous because containing a figment of truth.

On the prevention of Quininism. By Dr. DIXON, of Ashland, Tennessee.
(‘Nashville Journal,’ and ‘Dublin Med. Press,’ December 10th, 1856.)

“Quininism,” says Dr. Dixon, “may be entirely prevented by morphine, in the proportion of one grain of morphine, either sulphate or acetate, to twenty grains of quinine. I was led to this discovery in 1853, in the treatment of dysentery, in Hickman county, Tennessee. This disease was there generally complicated with intermittents, generally of a congestive or pernicious type. Some died in the chill. Quinine was here clearly indicated in large doses; but on account of the irritability of the stomach and bowels I was obliged to use morphine freely with it, besides using opiates freely in

other forms to check the flux. I never heard one of these patients complain of quininism though using from one to two drachms a day. I immediately concluded it was prevented by the opiates; neither was there any narcotism. They seemed mutually to counteract each other. Since that time I have generally combined morphine with quinine in all cases of fever or intermittents, and my patients never complain of the head being affected, though using large doses of quinine. The opiate seems to increase the febrifuge power of the quinine. I have also used this combination to advantage in well-marked typhoid fever.

On Iodoform. By (1) Dr. Glover, and (2) MM. DUMAS and BOUCHARDAT.
(1. 'Lancet,' March 14th, 1857; 2. 'Archiv. Gén. de Méd.,'
November, 1856.)

A new preparation of iodine discovered by Sevillas, and more especially brought to notice by Dr. Glover and MM. Dumas and Bouchardat, possesses properties which promise to make it a valuable addition to our means of employing, with benefit, this important therapeutic agent. It presents itself in a solid state, in the form of small pearly particles, of a sulphur-yellow colour, friable, soft to the touch, and with a very enduring aromatic odour. It contains more than nine tenths of its weight of iodine. It is sweet to the taste, and not corrosive.

It destroys animals in a smaller dose than iodine, after having produced more or less depression, and, in a few instances, vomiting. This depression is followed by a stage of excitement, with convulsions, contractions, &c. Iodoform does not produce the least local irritation, not producing the slightest increase of vascularity of the mucous membrane of the stomach and bowels.

Its therapeutic properties are thus arranged: 1. In consequence of the large quantity of iodine which it contains, it can replace iodine and the iodides in all the cases in which these are indicated. 2. It is absorbed with the greatest facility. 3. It has the advantage over all other preparations of iodine, of never causing any local irritation, or any of those accidents which render the suspension of iodine necessary in certain cases. 4. In addition to the properties it enjoys in common with iodine, it has advantages peculiar to itself: it allays pain in certain neuralgic affections, and produces a sort of local and partial anaesthesia of the rectum, when introduced into that organ. 5. It may be given in doses of from five to fifty centigrammes a day. 6. The principal diseases in which it has been employed with advantage are endemic goitre, scrofula, rachitis, syphilis, certain affections of the neck of the bladder, or of the prostate, and certain neuralgic affections. 7. It forms, with the greatest facility, most important pharmaceutical preparations.

*On the use of the Kameela or Reroo (*Rottlera tinctoria*) as an Anthelmintic.*

By (1) Dr. THOMAS ANDERSON, Assistant-Surgeon, 43d Light Infantry; and (2) Dr. GORDON, Surgeon, 10th Regiment of Foot. (1. 'Indian Annals of Medical Science,' October, 1855; 2. 'Medical Times and Gazette.' May 2d, 1857.)

The *Rottlera tinctoria* is a plant belonging to the section *Rotoneæ*, of the natural order *Euphorbiaceæ*. It is arborescent, growing to twenty or thirty feet in height, and abounding in the hilly districts of India, especially along the base of the Himalayas. The Kameela, or Reroo, is the powder brushed off the capsules—a powder which is of a dark brick-red colour, with a peculiar heavy odour, which odour is increased when the powder is rubbed between the fingers. Examined under the microscope, it is found to consist of blood-red semi-transparent granules, with entire stellate hairs, and broken portions of the same. Examined chemically, the most marked ingredient is a gum-resin, of which the properties have not yet been determined very carefully.

Kameela is extensively used in all parts of India as a dye, especially for silk, to which it imparts a fine yellow colour; and it is also a favorite anthelmintic among the natives. As a dye, its virtues are found to depend upon the resinous ingredient, and its virtues as an anthelmintic are referred by some to the same constituent; but Dr. Royle is disposed to refer these latter virtues to the Dolichos-like action of the stellate hairs.

The dose of the powder which seems to act most satisfactorily, is from 3iiss to 3ijj for an adult, or 3ss of an alcoholic tincture made by macerating 3vj of Kameela in a pint of rectified spirit for two days. The dose may be given at once, or in two portions, along with some aromatic water, and it is unnecessary to give any other medicine before or after.

Speaking of the practical uses of the Kameela, Dr. Anderson says, "I now know of nearly one hundred cases of tape-worm in which the Kameela has been prescribed, and in only two of these am I aware of its being unsuccessful, a proportion small enough to entitle it to a place in the *Materia Medica*, as the most valuable anthelmintic known."

And speaking upon the same subject, Dr. Gordon says: "The success and rapidity of effect of the Kameela in removing tape-worm in the cases of soldiers of the 10th Regiment, to whom I administered it, were such that I did not consider it worth my while to keep notes of them after the first two or three; nor, indeed, were the men to whom it was administered latterly taken into hospital, for they soon became aware of the wonderful efficacy of the remedy, asking of their own accord for a dose of it, after which they invariably parted with the worm in the course of a few hours, and then went on with their military duty as if nothing had happened; while, as I afterwards ascertained, considerable numbers did not think of 'troubling the doctor at all,' but, on suffering from the characteristic symptoms of

the worm, applied for the Kameela to the apothecary, and always with the same effect."

The first three cases which came under Dr. Gordon's notice are these :

CASE 1.—T. S—, æt. 32, 10th Foot, admitted January 25th, 1854, complaining of general debility, from which he had fallen down while on parade. He had suspicions of being affected with intestinal worms; tongue was coated with a white fur. Common quinine mixture was given three times a day until the case was more fully watched. On the 29th, 3j of Kameela (*Rottlera tinctoria*) was administered, mixed up with water, at 9 a.m., and a similar dose at noon. At 1 p.m. he felt a little sick, had no griping, was not violently purged, but passed about twenty feet of *tænia lata*, the head apparently coming away as well. He immediately felt well, had no more medicine, and on the 31st was discharged cured.

CASE 2.—Private C. D—, 10th Foot, admitted 22d January, 1854, with syphilis primitiva. While being treated for that disease became affected with *tænia*. Kameela was accordingly given in 3j doses, but five doses had to be given at intervals of three hours before any effect took place. A large quantity of tape-worm was then evacuated, and he immediately felt himself quite well. He was discharged, cured of both diseases, on February 6th, 1854.

CASE 3.—Private S—, 10th Foot, admitted into the dispensary May 25th, 1854, stating that he was voiding pieces of tape-worm, to which he had been subject for a period of two months; and, having in the early part of the attack been treated with Kameela, he voided eighteen feet of worm. He now looked healthy. A dose, consisting of five grains of calomel, and 3j of compound powder of jalap, was immediately given, about 6 o'clock a.m.; 3j of Kameela about 9, and another about noon. At 2 p.m. he voided one piece of tape-worm upwards of twenty feet long, including the filamentous portion near the head. On the 26th he felt well, and was discharged.

"In the absence of a magnifying glass, it is difficult to say with precision whether the head is discharged along with the rest of the animal; but, so far as the eye can judge, I am almost positively certain that it is. The worm has, in every case observed by me, been discharged in a dead state; but whether the tendency to the generation of other *tæniæ* is removed by the medicine is more than doubtful."

The Kameela appears to have been first extensively used by Dr. McKinross, of the Horse-Artillery, who published a brief account in the 'Indian Annals' for October, 1853.

On the Ergot of Wheat. By Dr. ROBERT. ('Gaz. des Hôpitaux,' March 22d, 1856.)

Dr. Robert makes the following statements respecting this substance:

1. The medical and obstetrical property of this ergot is as incontestable as of ergot of rye, and its effects are as prompt, as direct, and as great.

2. Its haemostatic action appears certain.

Dr. Robert has administered it several times against abundant dis-

charges of blood, and immediately after labour it has almost constantly and fully succeeded.

3. In the dose of one or two grammes, according to urgency, it has frequently succeeded in lessening, if not in completely arresting the hæmorrhage; and this without appearing to produce any stimulant action on the uterus.

On the use of Sulphate of Zinc as a Caustic. By Dr. SIMPSON, Professor of Midwifery in the University of Edinburgh. ('Medical Times and Gazette,' 17th January, 1857.)

Sulphate of zinc is a drug which is continually employed by medical men, in the form of collyria, or injections, or lotions; but no writer, so far as we are aware, has hitherto pointed out the fact that it is a powerful and very manageable caustic when applied as a fine powder to an open and diseased surface. In using it as a caustic, Dr. Simpson has always used the salt dried or anhydrous, and finely levigated. Sometimes he has applied it in the form of a simple powder, sometimes in the form of a paste made with glycerine, and sometimes as a strong ointment. To work it into a paste, about one drachm of glycerine to an ounce of the dried powder is required; and in this form it keeps for any length of time ready for use. A caustic ointment may be formed by pounding together two drachms of axunge with an ounce of the dried sulphate of zinc.

When used in the form of a powder, paste, or ointment to an open or ulcerated surface, the part to which it is applied is rapidly destroyed to a depth corresponding to the thickness of the superimposed layer. The slough, eschar, or devitalized part is of a white colour, and usually separates on the fifth or sixth day, leaving behind it (if the whole morbid tissue is removed) a red, granulating, healthy, and rapidly cicatrizing wound. Dr. Simpson has sometimes seen the edges of the wound already more or less puckered and contracted at the time of the separation of the eschar. The white slough or eschar itself shows no tendency to chemical or putrefactive decomposition, but is firm in texture and free from taint or odour. If we apply the sulphate of zinc in any case of malignant or semi-malignant ulcer or deposit, it will require to be repeated immediately after the first or preceding eschar separates, provided any yellow or unhealthy tissue remain at the bottom or in the sides of the wound, or if the surrounding hardness is not yet quite dispelled. After the last eschar is removed the remaining wound or sore will rapidly heal up under any common applications, as black wash, astringent lotions, water dressing, &c.

Sulphate of zinc, like chloride of zinc, will not act as a caustic where the epithelium is entire, or unless it be applied to a broken or open surface. This is at once an advantage and a disadvantage; an advantage in so far that it prevents all fear of the caustic ever unnecessarily affecting any of the healthy contiguous surfaces and parts, and renders its application and use far more simple and certain; and a disadvantage, because when we wish to apply it to a non-ulcerated structure, we must first remove the intervening epithelium by a small

blister, or more effectually by the application of an alkaline or acid caustic. A paste made with sulphuric acid and powder of sulphate of zinc will both, perhaps, at once remove the epidermis, and give at the same time the action of the mineral caustic. If too liquid, it may be prevented from spreading beyond the desired spot by enclosing that spot within a circle of oxide of zinc powder, or within a ring made with an oxide of zinc paste.

The local inflammatory reaction around a sulphate of zinc eschar is generally slight and transient. Dr. Simpson has never witnessed any very marked effusion or swelling in the surrounding parts, except where the caustic was used in the neighbourhood of parts containing a large quantity of loose cellular tissue. Nor has he ever seen the general system affected by any absorption of it, or any special constitutional symptoms or disorder follow the topical application of sulphate of zinc, however freely and lavishly used. Like other strong caustics, its action is usually, but not always, attended for a few hours with considerable local pain and burning. This local suffering, however, generally disappears more rapidly with sulphate of zinc than with arsenic or chloride of zinc, and may always be relieved when necessary by the temporary use of anaesthetics or opiates, or by applying locally along with it, or before it, a very small quantity of sulphate of morphia. The devitalized part or eschar also produced by sulphate of zinc separates sooner than after most other caustics. The eschar made by arsenious acid seldom separates before the sixteenth or eighteenth day; that made by the chloride of zinc usually separates from the tenth to the twelfth day. Dr. Simpson has generally found the eschar made by sulphate of zinc to separate as early as the fifth or sixth day.

The advantages of the sulphate of zinc, as compared with other caustics, are, therefore, in general terms: 1. Its powerful escharotic action. 2. The rapidity of its action. 3. Its great simplicity and manageableness. 4. Its facility of application. 5. Its non-tendency to deliquesce or spread. 6. Its perfect safety. 7. (Dr. Simpson believes) its efficacy.

"On this last point, however, more experience will require to be accumulated," Dr. Simpson says, "than I can yet offer. But I have seen not only the surface of cancroid or cancerous ulcers speedily and perfectly excavated by its application, but the surrounding characteristic induration become at the same time rapidly absorbed, and the remaining wound very speedily cicatrize. I have seen, more than once, ulcers with irregular everted edges, dirty cavities, and indurated bases and sides, and which had been open for years, become quite softened, closed, and healed over, within five or six weeks after the first application of the caustic. In spreading epithelial or cancroid ulcer of the cervix uteri, I have found, in as brief time, under the free local application of powdered sulphate of zinc, the ulcerated surface exfoliated, the sanguineous and sero-purulent discharges arrested, the parts temporarily, at least, if not permanently, cicatrized and healed, and the patient's health, strength, and spirits restored, though, when first inserting the caustic, I believed the disease to be altogether beyond the reach of any remedial measures."

"Let me add here, that I have tried as caustics other metallic sulphates besides the sulphate of zinc. The sulphates of iron, nickel, &c.,

have a similar escharotic action, without presenting, as far as I know, any special claims or advantages.

"In a preceding paragraph it has already been remarked that many of the most famed secret pastes and applications that have at different times and in different countries been in fashion for the cure of cancer, contain arsenical preparations as their essential and efficient base. Perhaps it may be found that sulphate of zinc is the principal ingredient in other secret caustic remedies. A few days ago, after showing some examples of the caustic properties of sulphate of zinc to Dr. Johnston, of Worcester, Massachusetts, during a brief visit which he paid to Edinburgh, that gentleman stated to me, that from accidental information which he had obtained from a druggist, he believed sulphate of zinc to form the basis of one, if not more, celebrated secret American applications for the cure of cancerous disease.

"Caustics are often used in practice for other purposes than the extirpation of cancerous and cancroid malignant and semi-malignant ulcerations and deposits; and I have successfully employed sulphate of zinc in fulfilling most of the indications for which escharotics are resorted to: as for example:

"1. In the treatment of indurated inflammatory ulcers of the cervix uteri. To this part it can be readily applied, either through a speculum, or still more easily by means of a small ivory or wooden cylinder and piston, like the common leeching tube, or like Dr. Locock's glass tube for carrying silver solution; or in the form of a medicated pessary, made up with a small quantity of axunge or glycerine.

"2. In cases of lupus and rodent non-malignant ulcers of the nose and face, and other integumental parts. Here we must not forget Rayer's rule, that not one, but a succession of applications of any caustic, is generally necessary for ultimate success.

"3. In the annoying and intractable ulcerous forms sometimes assumed by certain cutaneous affections. Thus, I have seen it arrest a case of *Impetigo Rodens*, which, in despite of various applications, had gone on progressing for two years.

"4. In eating down the small red sensitive tumours so common at the orifice of the female urethra, and in the neighbouring vulvar mucous surfaces.

"5. In destroying ulcerated condylomata and watery excrescences.

"6. In several cases I have easily introduced the sulphate of zinc and glycerine paste, by means of a small catheter-like tube and piston, into the proper cavity of the uterus, to cauterize the open surfaces and diseased structures leading to obstinate menorrhagia; and which deep points it is, I believe, sometimes difficult, or indeed impossible to reach with any other efficient caustic. In the uterine cavity, as elsewhere, sulphate of zinc acts only upon any abraded and diseased surfaces that exist, and not to any extent upon the parts covered with healthy mucous membrane.

"7. I have tried to take advantage of the highly contracting power of the cicatrices left by sulphate of zinc in the replacement and sustentation of chronic prolapsus of the uterus and bladder.

"It will, perhaps, be found also adapted to the treatment of some

obstinate ulcers of the limbs, and to the early cauterization and destruction of syphilitic chancres and pustule maligne.

"Other practical applications of sulphate of zinc as a caustic will, no doubt, betimes suggest themselves to the minds of the clinical surgeon and physician."

On the effects of long-continued action of Cold Water externally. By Dr. C. W. BENCE JONES and Mr. W. H. DICKINSON. ('Lancet, May 2d, 1857.)

Opportunities of making use of some douche and shower-baths of more than ordinary potency having presented themselves, the following experiments were undertaken with a view of removing some of the uncertainty which now prevails regarding the effects of the outward application of cold water. These experiments are divided into three sections: 1st, on the general effect of the douche or shower-bath; 2dly, on the effect of the shower-bath at different temperatures; 3dly, on the effect of the shower-bath in different circumstances.

Section 1.—The first experiment was made by a douche-bath, by which 225 gallons of water were allowed to fall upon the head for a quarter of an hour. By this the pulse was greatly relaxed in frequency and power, and it became irregular; at one period of the experiment the reduction amounted to 30 beats in the minute. The second experiment was made with a shower-bath delivering about 20 gallons of water a minute—upwards of 300 gallons in fifteen minutes. The results were similar to those obtained with the douche-bath, but were more marked. During the second minute the pulse was found to be less frequent by 40 beats than it had been previous to the fall of water; and from the fifth minute to the fifteenth, when the experiment terminated, it was observed to be frequently intermitting and very weak. The third experiment was made with a still more powerful shower-bath, at Vienna. This delivered nearly 38 gallons of water a minute—upwards of 550 gallons in fifteen minutes; but the openings in the rose were very fine, and the shower was much spread. In the fourth minute the pulse was found to be imperceptible, and during the remainder of the quarter of an hour for which the bath was continued, it was feeble and irregular. Afterwards the pulse was observed to be smaller and rather slower than it had been previously, but it was immediately restored by a warm bath. Thus it seems that a strong douche or shower-bath produces an excessive immediate effect upon the pulse. By the first shock it may be reduced in rate even 50 beats in the minute; it then recovers a little, but after four or five minutes, when the shivering commences, it again becomes reduced, and often is rendered quite imperceptible.

Section 2.—The experiments in this section were made for the purpose of showing whether the effect varied with the temperature of the water. The most interesting are two which were made with the powerful shower-bath alluded to in Section 1, second experiment. In the first, the water was at 70° Fahr. The pulse did not fall in rate for three minutes, although it lost much in strength and volume. When

shivering commenced at the end of the fourth minute, the pulse was imperceptible, and it was scarcely to be felt until the end of the sixth, and it remained weak and irregular until the termination of the experiment at the end of the tenth minute. In the second experiment the water was iced down to 50 deg. Fahr. The effect was much more rapid. During the first fifteen seconds the pulse was reduced at the rate of 38 beats per minute; this was followed by a reaction better marked than before, and the annihilation of the pulse, which followed the commencement of shivering, was much more complete and of longer duration.

Section 3.—Some of the effects observed to follow the use of the shower-bath, taken under varying circumstances, are here stated. Two experiments were made: one at the baths at Ischel, in Austria, and one at the Prussian bath, at Vienna, where cold shower-baths were alternated with very hot vapour-baths. It was found that the increased action of the pulse produced by the exposure of the body to hot steam prevented that depression which would otherwise have resulted from the cold water. A converse experiment is quoted from Dr. Currie's 'Medical Reports.' An ague patient, who had derived advantage from the cold effusion during the hot stage of the fit, nearly died from the alarming depression which resulted from the same application while he was in the cold stage.

The general conclusions are—1. The usual effect of a strong douche or shower-bath is the immediate depression of the pulse. By the first shock of water between 64 deg. and 68 deg. Fahr. the pulse becomes weak and irregular, and may be reduced in rate even 50 beats in the minute. After the first shock the pulse recovers a little, but remains weak until the secondary effect or shivering comes on, when it becomes weaker and intermitting, and may be quite imperceptible. After ten or fifteen minutes the pulse remains very small and weak, and shivering continues whilst the experiment lasts. 2. If the shower-bath is a small one (eight gallons), and the person taking it in good health, no great difference is perceived in the pulse whether the water is hot (110 deg.) or warm (74 deg. Fahr.). If the water is very cold (47 deg. Fahr.), the pulse becomes smaller, but the rate is not affected. With a shower-bath giving twenty gallons per minute, a difference of twenty degrees (from 70 deg. to 50 deg. Fahr.) causes a great difference in the shock. The difference in the after-effect, or shivering, is not so marked. The depression of the pulse when the shivering comes on is more continuous with the colder water, and is more manifest up to the end of the experiment. 3. When the pulse is raised above, or depressed below, its healthy standard, the shower-bath or douche produces very much less or a much greater effect than would be produced by the bath under ordinary circumstances. As it seemed possible that a part of the reduction of the pulse might be due to the action of the cold water upon the capillaries and the radial artery in which the pulse was felt, a set of experiments were made in which the forearm and hand were exposed to temperatures varying from 25 deg. to 124 deg. Fahr. The results of these experiments may be thus stated:—1st. When one arm is in water at 50 deg. and the other in air at 46 deg. Fahr., no difference in the pulse is observed in fifteen minutes.

2d. When one arm is in water at 110 deg. Fahr., and the other in air at 46 deg. Fahr., little if any difference could be felt in the same time. 3d. When one arm is in water at 44 deg. and the other in water at 107 deg. Fahr. there was the same result in the same time. 4th. Even one arm at 33 deg. and the other at 112 deg. gave no result. 5th. Still lower and higher temperatures, 25 deg. and 115 deg. Fahr., did not give any decided result in fifteen minutes. 6th. The douche-bath on the arm and hand, at 42 deg., produced no greater effect on the pulse than still water at 44 deg. Fahr. Hence, generally, it follows, that no part of the effect produced by the shower-bath on the pulse, depends on the action of the water on the hand and forearm in which the pulse is felt.

V.

REPORT ON PSYCHOLOGICAL MEDICINE.—PART II.

BY

C. LOCKHART ROBERTSON, M.B. Cantab., F.R.C.P. Edin. Honorary Secretary to the Association of Medical Officers of Asylums and Hospitals for the Insane.

(Concluded from Vol. XXIV, July—December, 1856.)

§ V. *Classification and Forms of Mental Disease.*

Dr. Monro's two papers on the classification and forms of insanity ('Asylum Journal of Mental Science,' January, 1857,) are two lectures of a series upon the history of the insane mind. In the first, he shows the imperfection of the old terms mania, melancholia, dementia, &c., which, however useful as indicating the physical states of the patient, are not sufficient *alone* for the distinguishing mental disease, and should be used rather as subdivisional than as generic terms. He puts forward the advantages of dividing mental diseases in a more philosophical manner, and in a mode more in accordance with the great divisions of the mental faculties in the healthy state. Emotional, notional, and intelligential insanity, are the generic terms proposed, while these he would subdivide by terms applicable to the physical states of the patients. By emotional insanity is meant that form of disease when the higher faculties of the mind are comparatively undisturbed, and the emotions chiefly suffer. By notional, that in which one or more of the ideas run wild, though general incoherence is not attained. By intelligential, complete incoherence is evidenced. To show the distinctness of this division, he says—

"Three persons obstinately refuse food, one of them is so miserable that he wishes to die and does it purposely (emotional insanity). A second thinks his food is poisoned, or that if he eats he will burst (notional insanity). A third is so raving and incoherent, that he knows not whether he eats or not (intelligential insanity)."

There is something more analytical, more radically connected with the true history of the mind, to draw such distinctions, than to dwell only on the vagaries of manner and conduct, which change continually in the same case, and which frequently co-exist with those of an

opposite character ; thus the maniac is often melancholic, and both maniac and melancholic frequently evince demented symptoms.

At the same time, Dr. Monro feels the necessity of referring to the physical symptoms as well as the mental history in his classification of the insane ; and in order to ensure this, he subdivides these generic terms into two divisions each respectively, the one marked by excited, the other by depressed symptoms ; and he gives names to each of these subdivisions. He confines the terms mania, and melancholia, and dementia, to the excited and depressed forms of intelligential insanity ; monomania and monomelancholia to the two forms of notional insanity ; while he forms two new terms for the two forms of emotional insanity.

26. *Dr. Monro's Table of the classification of Mental Disease :*

Metaphysical Symptoms.	Physical Symptoms.	Phraseology.
Emotional Insanity.	<div style="display: flex; align-items: center;"> <div style="flex-grow: 1;"> <div style="display: flex; justify-content: space-between;"> Nervous Exaltation. Nervous Depression. </div> </div> </div>	Exmentia, (a compound of the Greek <i>ex</i>). Dysmentia, (a compound of the Greek <i>dus</i>).
Notional Insanity, or Simple Delusions.	<div style="display: flex; align-items: center;"> <div style="flex-grow: 1;"> <div style="display: flex; justify-content: space-between;"> Nervous Exaltation. Nervous Depression. </div> </div> </div>	Monomania. Monomelancholia.
Intelligential Insanity, or Incoherence.	<div style="display: flex; align-items: center;"> <div style="flex-grow: 1;"> <div style="display: flex; justify-content: space-between;"> Nervous Exaltation. Nervous Depression. </div> </div> </div>	Mania. Melancholia. Incoherentia. Acute Dementia.
Insanity complicated with Motor Derangement	<div style="display: flex; align-items: center;"> <div style="flex-grow: 1;"> <div style="display: flex; justify-content: space-between;"> Insanity combined with Convulsions. Insanity combined with Cataleptoid Symptoms. Insanity combined with Paralysis. </div> </div> </div>	Epileptic Insanity. Hysterical Insanity. Cataleptoid Insanity. Paralytic Insanity.

27. *Dr. Monro's view of the nature of Excited and Depressed Mental Power.*—Dr. Monro considers excited action and deficient action in mental matters to represent only two states or degrees of depressed nervous action. His view is, that perfect strength is exhibited by calmness of function, and that as much as convulsion and paralysis are both the consequences of nervous injury in the motor system, so morbid excitement and profound melancholy or torpor are the signs of loss of nervous tone in the sensorial system ; he says—

“That a morbid excess of action is but a step short of depression of action is provable in many ways. If we take an example from that part of the nervous system which is devoted to the special senses, we find that phantoms and blindness, tinnitus aurium, and deafness, succeed each other, according to the degree of injury to the nerve substance.

In the motor system, convulsion and paralysis follow a similar law; and in the system of the true sensorium, we have but to note the varying effects of such a poison as alcohol on the mind; a little causes excitement, a little more torpor.

"Now, madness is to be characterised very much by the results of too much, and too little. Mental phenomena are extravagant or deficient, or both at once; and to those who study the disease, it is quite apparent, that what is required for cure is to restore this lost equilibrium."

The great difficulty of classifying the insane in any strict and satisfactory way, on account of their endless idiosyncracies is thus touched upon: "I find that the varieties are far greater and more numerous among the insane than the sane, and that a moment's reflection will show us it must be so." "There are among the sane certain great laws of conscience, expediency and reason, which actuate all, and in defiance of the difference of their instincts bind them together; and thence arises a large amount of that uniformity in thought and action which so happily exists. Among the insane, on the other hand, in proportion to the extent of their insanity, these laws cease to have force; instincts consequently acquire an undisputed sway, and idiosyncracies grow and develop." "Patients in proportion as they are insane have no sympathy for one another." "I have frequently taken fifty insane persons or more and tried to classify them, and have seldom if ever succeeded in finding two really alike; they may generally fall into great varieties pretty well, though these are often much less marked than books would give occasion to believe."

28. The Phenomena of Progressive Mental Disease.—Dr. Monro believes that in what he calls a normally progressive case, these various forms are steps in advance of one another; he says—

"I believe it is a right thing to esteem emotional insanity rudimentary to notional, and notional to intelligential. In laying this down as a rule, I do not mean to say that all cases of more complete insanity must have passed through the more rudimentary forms (as I shall show hereafter); but if we take notice, we shall find, that while many do pass through these progressive stages, this gradual journey is remarkably in accordance with the analytical history of the mind. By this I mean, that I believe it to be a generally recognised thing among metaphysicians, that *so far as mental phenomena depend on a person's own experience*, and not on the testimony of others, ideas are acts in advance of sensations and emotions, and that the acts of the intelligence, such as the memory, the reason, and the will, are acts in advance of sensations, emotions, and ideas."

And as an example of this sequence in a diseased or abnormal state, "Let us mark the gradual influence of chloroform on the mind, as the more rapid, and therefore the more remarkable agent. The person placed gradually under its influence will give an account which is very much to the effect, that his emotions are first affected, while his notions and intellect remain clear and unaffected; that he then passes through a period of delusion, which runs on into incoherence, and final extinction of mental activity."

"Sensational and emotional delight advances by degrees into the regions of phantasy, the external world recedes more and more, the emotions become embodied into ideal existences, the dream has begun, and the patient fancies himself in the presence of things and persons who have no real objective existence. By degrees these images rapidly succeed each other and without any order, all connection or sequence is lost, and the patient has really passed into the stages of ideal and intelligential insanity."

Having made these preliminary remarks, Dr. Monro proceeds to trace more in detail the history of mind in its course at various stages from the ground of sanity to the culminating points of complete incoherence.

29. An historical sketch of Mental Phenomena from perfect Health to complete Unsoundness.—"I propose now to trace the mind through the varying conditions of disease, and to make as clear as I can anything which indicates the course of this journey. Before I come to the history of unsound mind, I propose to give a brief sketch of healthy mind in the two conditions of physical refreshment and physical exhaustion of its nervous instrument the brain. And I do this for two reasons: first, that by this means we shall best get on to the track by which we are to trace every form of insanity; and, secondly, that while the mind has moral liberty, or, in other words, is healthy, it can speak for itself, and tell us something of the phases of mental and physical suffering which it goes through. In the case of the insane we must trust very much to the hypothesis of doctors; the patient is the victim of impressions, he can no longer view them objectively; but the sane can speak for himself. He can say, though I am suffering from intense discomfort, though my senses play me false, though I feel a difficulty in controlling my thoughts, still I know that the external world is the same as it ever was, the medium of my own mind is the only thing at fault.

"I propose, therefore, to comment upon the following states.

- "1. *The healthy mind in a sound and refreshed body.*
- "2. *The healthy mind in an exhausted or diseased body.*
- "3. *The diseased mind suffering from emotional insanity.*
- "4. *The diseased mind suffering from notional insanity.*
- "5. *The diseased mind suffering from complete or intelligential insanity.*"

Of these the first chapter only has been given. We shall hope, on the completion of these lectures, to recur to Dr. Monro's labours.

30. Dr. Daniel Tuke's Lectures on the forms of Mental Disease.—The several forms of mental disease are carefully and clearly described by Dr. Tuke, visiting physician to the Friend's Retreat, York, in four papers, or rather lectures, in the 'Asylum Journal of Mental Science.' (July, 1856, *et seq.*)

Dr. Tuke divides the varied forms of mental disease under the following heads:

- I. *Forms of mental unsoundness, involving the Intellect.*
- II. *Forms of mental unsoundness, involving the Moral Sentiments.*
- III. *Forms of mental unsoundness, involving the Animal Propensities.*

These lectures present a careful summary of the several forms of mental disease. The writings of all the leading psychologists have been evidently collated in their preparation, and we look forward with satisfaction to seeing them take their place in the 'Manual of Psychological Medicine' shortly, we understand, to be published by Drs. Tuke and Bucknill.

In the next section of this report we present an analysis of Dr. Bucknill's excellent practical papers on the diagnosis of mental disease —another chapter doubtless of the promised manual. In the meanwhile, the publication of these and similar practical papers in the pages of the 'Asylum Journal of Mental Science,' must tend to raise the professional reputation of the association of which it is the official organ, as well of its accomplished editor and of his contributors.

§ VI. *Diagnosis of Insanity.*

The 'Asylum Journal of Mental Science' for the past year contains a series of able articles on the diagnosis of insanity, from the pen of the editor, Dr. Bucknill. The diagnosis of insanity is frequently a task of extreme difficulty, and of the most urgent importance. Not only may the happiness of families and the safety of society depend upon its being rightly made, but an error in it may exculpate a villain, or consign an irresponsible lunatic to a shameful end upon the scaffold. Questions of criminal lunacy are in reality nothing more than questions of diagnosis.

31. *The Physiognomy of Insanity.*—“The extreme distortion of face,” says Dr. Bucknill, “produced by acute mania, or melancholia in its higher degree, is easily recognised. It may, however, be needful to distinguish it from the expression of cerebral inflammation, or of fever. The distinguishing characteristics of cerebral inflammation attended by maniacal symptoms are, a greater suffusion of countenance, a firm knitting of the brows expressive of intense pain, and a fierce, prominent, and blood-shot eye. It is in meningitis rather than in mania that it may be truly said—‘And each strained ball of sight seemed bursting from his head.’ The patient suffering from cerebral inflammation has a motiveless ferocity of aspect, rarely met with in pure mania. The stage of effusion in meningitis, and all the stages of some forms of deep-seated cerebral inflammation, in which the meninges are not affected, require to be distinguished from dementia, rather than from mania. The history of the case, however, and the affection of the muscular system, will generally render the diagnosis easy.

“The aspect of countenance in the delirium of fever is sufficiently different from that of mania, to afford valuable aid in the discrimination of these two conditions. In fever, whatever may be the degree of excitement and the amount of delirium, the countenance indicates low emotional force. In the delirium of mania, on the contrary, the expression of emotional force is highly exaggerated. This difference is very marked in the expression of the eyes and the mouth. Whatever may be the character of febrile delirium, the expression of the eyes is comparatively

devoid of meaning, the muscles of the mouth, although relaxed, are devoid of mobility. The muscles of the face, like those of the body in general, are greatly deficient in power and tone, and the features, which are controlled by the facial muscles, are relaxed and without expression. If there is any mobility of the facial muscles, it is tremulous and feeble, indicating want of power; whereas, in mania, the play of these muscles is full of expression and purpose. It is vigorous and tense, and plainly marks a concentration of nervous force. The deepening wrinkles on the face of a patient suffering from the delirium of fever, are the result of emaciation; those which furrow the face of a maniac, result from the tense contraction of the muscles of expression.

"In a great number of cases, a remarkable peculiarity is observable in the physiognomy of the insane; this exists in a want of accord in the expression of the different features. This is often remarkable and characteristic, and reminds one of those children's toys, in which the upper and lower halves of painted figures are separable and capable of being joined in fantastic reunion. Thus, the lower face of an alderman may be added to the upper face of a handsome woman, and upon the simpering mouth of the latter may be superadded the stern brows of a soldier. The effects produced by this amusing toy are only exaggerations of what may be observed in the insane. The expression of mouth often gives the lie to that of the eye and the brow, and while the whole features are full of expression, it is often impossible to designate truly that which is expressed. This is, perhaps of all, the most characteristic peculiarity of insane physiognomy, because it is only observed among the insane. It is, however, frequently absent in them, and the patients in whom this peculiarity is strongly marked, are probably less numerous than those in which it is absent. Its presence, therefore, as a symptom of insanity is of considerable value, while but little weight can be attached to its absence.

"Another peculiarity in the physiognomical expression of the insane, is the apparently causeless and motiveless play of feature which is frequently observed in them. This is only remarked in chronic mania, and in the earlier stages of acute mania, and, conjoined with the last-mentioned conditions, it occasions that state of facial expression upon which the popular idea of a madman's looks is founded. These changes, although apparently causeless and motiveless, are not so in reality; they are, indeed, a reflection of those rapid changes in the emotional state which often exist in mania.

"The physiognomical expression of the insane must be studied with reference to the form of disease. Thus, in melancholia, the facial expression is emotional; while in mania, it is emotional and intellectual, and is marked by the characteristics of changeableness and inconsistency above described. In dementia, on the other hand, all expression has disappeared, the vacant stare and the meaningless lineaments indicate the loss of thought and of desire. It is only necessary in this place, briefly to advert to the great peculiarities observable in the face of general paralytics,—the trembling lips, the drooping brows, the features expressive of a mixed state of imbecility and excitement, the eyes with pupils of unequal size, together afford to the experienced alienist, unquestionable testimony of the existence of this most hopeless of maladies."

32. Leading features of the diagnosis of Mental Disease.—Dr. Bucknill gives many excellent and practical directions respecting the manner in which the observation and interrogation of a person suspected to be insane should be conducted, and respecting the outward signs of madness in the habits and demeanour of the patient. He also enlarges upon the subject of hereditary predisposition, causation, and incipient symptoms, as they respectively bear upon the question of diagnosis. Our limits will only permit us to extract the leading features of diagnosis in two of the principal forms of mental disease. Dr. Bucknill commences with the simplest form of mental disease, viz., dementia, of which he says:

“There is, perhaps, no form of mental disease in the early stages of which it is more difficult to form a decided opinion, than in dementia. This difficulty arises from the frequent absence of several indications which render valuable assistance in the diagnosis of other varieties of insanity; the demeanour and conduct of the patient is often very slightly, if at all, changed; there is nothing strange in his appearance, no egarement in look or manner. The facial expression, indeed, is often weak and undecided in conversation; the attention is found to be feeble, but not wandering; but the earliest and most trustworthy symptom is loss of memory. The physician will often find, that in the course of conversation, the patient forgets what he has been talking about a few minutes previously, and that he has not the slightest recollection of the events of the previous day. This form of disease very rarely comes on without a decided exciting cause, and the opinion of the physician will often be facilitated by testimony as to the existence of such a cause, and enfeeblement of the faculties resulting from, and speedily following, it. The most frequent causes of primary dementia are injuries of the head, and attacks of apoplexy; the causes next in frequency are fever and emotional disturbances, especially grief.

“In primary dementia, the difficulties of the physician are increased by the absence of any form of delusion, namely, of illusion, hallucination, or delusion proper.

“In many instances, the most experienced physician will not be able conscientiously to give a decided opinion in the early stages of this malady. Its progress, however, is generally certain, the attention becomes more and more enfeebled, until even the sensational indications of the bodily wants cease to be observed, and the patient, if neglected, lapses into what are called dirty habits. In its mature stages, this form of disease is recognised with the greatest facility.”

The diagnosis of Acute Mania.—This is to be made upon the following grounds:

“Almost invariably in acute mania there is loss of sleep, a diagnostic symptom of the utmost value between the real and the feigned disorder. The acute maniac will often pass five or six days without any sleep, and five or six weeks with only three or four hours of sleep at intervals of several days. An impostor, feigning the violent form of madness, cannot refrain from deep and regular slumber, which falls upon him with the more certainty as he exhausts himself in his efforts of spurious fury. The impostor, moreover, cannot feign the physiognomical expression of

acute mania, or at all events, he cannot maintain it for more than a few minutes. A man may imitate frantic gestures or shout gibberish without difficulty so long as his physical strength enables him, but he cannot maintain any look expressive of strong emotion unless he has practised the histrionic art with great care and success. The voice-muscles, and those of the limbs, are constantly exercised in obedience to the will, but those of the countenance are the involuntary exponents of emotion. Conversation, properly so called, is always difficult, and often impossible with an acute maniac. In many cases the mind is so much occupied by delusive ideas, that only a few disconnected words can be elicited; more frequently, however, acute mania is accompanied by garrulity; this is especially the case when the exaggerated emotions are cheerful and expansive. This form of mania often exists without prevailing delusion, and the patient rambles on in his talk through a strange medley of boasts, promises and threats, oaths and obscene remarks, in a manner which renders it easy to understand why M. Falret supposes it possible that in this condition there is a spontaneous creation of ideas.

"The restless and ever changing condition of the mind, expresses itself as strongly in action as in vociferation and wild words. The patient is always in movement, running, dancing, gesticulating, embracing, or fighting with those around him, displacing, or sometimes breaking furniture, thumping with fists on the door of his room, and evincing in manifold ways the restless activity of the muscular system. It is probable that this impulse to action is not entirely dependent upon the condition of the brain. The nervous system generally, is in a state of excitement, causing an uncontrollable desire to expand its energies in excessive muscular action. This restlessness, however, is not met with in all cases. In gay mania, in mania with fear and anxiety it is common; but in morose and sullen mania the patient will often retain one position for a considerable time. But even under such circumstances the clenching of teeth and hands, the half involuntary movement of the limbs, evidently restrained by the will, indicates strong impulse to action.

"The condition of the mental faculties in acute mania presents the widest differences. In many instances no trace of delusion can be discovered in a patient who is vociferating, swearing, laughing, reproaching, in constant movement, and without sleep. All the observations and the remarks are sometimes found to have a certain kind of cleverness and shrewd appreciation of all that is taking place. The attention skips from object to object with choreic rapidity and abruptness, causing exaggerated and absurd emotional states, but in many instances not falsifying the judgment. In most instances, however, delusions and hallucinations exist, and the task of detecting them is not difficult, for in this form of disease the patient is so demonstrable that he usually dins his delusion into your ears.

"Hallucinations appear to be more frequent in acute mania than delusions proper, and also more frequent than they are in any other form of insanity. Hallucinations of sight are very common. In acute mania patients see the Deity, and angels, and devils, hear music and voices, believe their food to be human flesh or poison, and a hundred hallucina-

tions of the same sort, far more frequently than in other forms of insanity.

The diagnosis of meningitis from mania is made by observing in the former, premonitory rigors, and excessive cephalalgia, followed by acute febrile disturbance of the organism, a bounding pulse, a hot and dry skin, a prominent and bloodshot eye, a contracted pupil with a great intolerance of light, accompanied by a fierce delirium, in which illusions of the senses are common. In acute mania many of these symptoms are often absent, and those which do present themselves have much less intensity than in cerebral inflammation. In cerebral inflammation, tendency to muscular exertion so common in mania is absent, or only demonstrates itself in brief actions instigated by the delirium. The emotional disturbance is less remarkable than in mania. The affection also tends rapidly to terminate in recovery or in death. In the latter case convulsions supervene, the pulse becomes rapid and small, the pupil dilates, the skin is covered with clammy sweats and the vital powers gradually fail; death may also come on more rapidly from coma. This rapid sinking is not observed in mania. Some patients do indeed die suddenly from what is called maniacal exhaustion, but even in these cases the course of the disease is more prolonged than in fatal instances of cerebral inflammation. The immediate cause of death in such cases is sudden syncope."

§ VII. Statistics of Insanity.

In the 'Half-Yearly Abstract,' vol. VII, January—June, 1848, we presented, in our report on psychological medicine, an analysis of Dr. Thurnam's carefully prepared 'Observations on the Statistics of Insanity.' Since that period no attempt has been made to draw any farther statistical conclusions from the records of our large lunatic asylums until the end of last year (November, 1856), when Dr. Hood presented to the governors of Bethlem Hospital an admirable decennial report (1846-55 inclusive), on the statistics of that hospital so far as they relate to the *curable patients** treated there. These numbers are, male, 1066, female, 1663, total, 2729, whose history is treated of under the following heads, to each of which a well digested chapter is allotted:—

1. Patients admitted as curable, per centage of recoveries and mean annual mortality.
2. Age (Table II).
3. Sex.
4. Education (Table III).
5. Religion (Table IV).
6. Domestic condition (Table V).
7. Social condition (Table VI, and VI a).
8. Residence (Table VII).
9. Apparent and assigned causes (Table VIII, VIII a, and VIII b).
10. Duration of disease before admission (Table IX).
11. Number

* Three classes of patients are received into Bethlem Hospital, namely, curables, incurables, and criminals. It is the first of these classes alone that Dr. Hood includes in his tables. He does this, he says, because the *incurables* have no *special* interest attached to them. They are simply chronic cases, for whom the hospital offers, if necessary, an asylum for life; and any history of the *criminal patients* is not permitted by government to be published. In leaving out these two classes, however, very little is omitted, for, in the first place, their numbers are comparatively small, and, in the second, there is nothing peculiar in the progress and issue of such cases.

of previous attacks (Table X). 12. Time of attacks (Table XI), 13. State of the general health (Table XII). 14. Form of Insanity (Tables XIII, XIV, XV). 15. Treatment of insanity (Tables XVI, XVII, XVIII, XIX). 16. Causes of death and post-mortem appearances (Table XX). We shall endeavour, as far as our limits admit of, to examine a few of the results of Dr. Hood's able investigations.

33. Per centage of recoveries and mean annual mortality.—The per centage of the recoveries at Bethlem during this decennial period ranges at 54·19, and the mean annual mortality at 6·37; while for the 100 years ending December 31, 1855, Dr. Hood states these relative results to be 43·05 per cent. of cures to an annual mortality of 8·27.

From a table by Dr. Daniel Tuke, in the 'Psych. Journal,' July, 1854, and quoted by Dr. Hood, it appears that the average results drawn from the statistics of various asylums in England, Holland, France, Germany, &c., stand in the relation of 39·74 per cent. recoveries on the admissions, and a mean annual mortality of 10 per cent.

34. Influence of age upon the recoveries and mortality.—According to Dr. Hood's table the recoveries under 25 amount to about three fifths of the admissions, and to about one half, between 30 and 65. After 65, as might be expected, the recoveries are greatly diminished, being about one seventh.

The influence of age upon the number of deaths has also been carefully investigated. Dr. Thunnam's conclusion is, that "the mortality of the insane increases in proportion to the age much more rapidly than is the case in the general population." ('Half-Yearly Abstract,' vol. VII, Report on Psych. Med. statistics). In Dr. Hood's tables the mortality, as a rule, increases rapidly with the age. Under 20, it is 4·8 per cent.; between 20 and 25, 2·5 per cent.; between 25 and 30, 3·9 per cent.; between 30 and 35, 4·5 per cent.; between 35 and 40, 8·4 per cent.; between 40 and 45, 5·6 per cent.; between 45 and 50, 7·8 per cent.; between 50 and 55, 7·8 per cent.; between 55 and 60, 8·1 per cent.; and above 60, 16·9 per cent. The mortality as a rule, increases with the age; but under 20 it is higher than in the decennium following, and between 35 and 40 it is much higher than in the years immediately preceding and following: a curious fact, which cannot be easily explained.

35. Influence of sex on Mental disease.—The influence of sex upon recovery is supposed to be *very* marked; and it is generally agreed that the probability of recovery is *much* greater in women than in men. But this is not the conclusion which is to be drawn from the experience of Bethlem during the ten years under consideration, for this experience shows that 54·4 per cent., recover among the women, and 53·8 per cent. among the men—a difference in favour of the women, it is true, but far more inconsiderable than that which is usually supposed to exist.

On the other hand, it is admitted that insanity is much more likely to end in *death* in men than in women. The mortality among men,

indeed, has been supposed to be nearly double that among women. In Dr. Hood's tables the mortality among the men is considerably higher than among the women, but not to the extent of being double. It is 7·3 per cent. among the men, and 5·8 per cent. among the women.

These facts are of great importance in estimating the effect of treatment in different hospitals, for it must follow that the results will appear more favorable in direct proportion to the number of women admitted.

36. Causes of death.—We have only space to present, in conclusion, Dr. Hood's very interesting comparative table of the causes of death in Bethlem Hospital and in the community at large.

TABLE showing out of one hundred deaths the number from each of twelve classes, and eight distinct forms of disease, in England and Wales, and in Bethlem Hospital.

Causes of Death.	In England and Wales, 1838.	In Bethlem Hospital 1845-1854.
1. Epidemic, Endemic, and Contagious Diseases	20·538	4·023
2. Diseases of the Nervous System	15·016	59·195
Including Convulsions (almost entirely of Infants)	7·879	...
,, Apoplexy	1·703	7·471
,, Paralysis	1·505	11·494
,, Epilepsy	·303	1·724
,, Diseases of Brain	·425	38·505
3. Diseases of the Respiratory Organs...	27·484	27·011
Including Inflammation of the Lungs	5·445	12·064
,, Consumption	17·613	14·367
4. Diseases of the Heart, &c.	1·075	1·724
5. ,, Digestive	5·387	5·172
6. ,, Kidneys, &c.	·493	...
7. ,, Uterus, &c.	1·007	...
8. ,, Bones, &c.	·635	...
9. ,, Skin, &c.	·126	...
10. Diseases of uncertain or variable seat	13·389	·057
11. Old Age	10·781	...
12. Deaths by violence	3·617	2·298
Including Suicide	·320	2·298

In our report on Psych. Medicine already referred to ('Half-Yearly Abstract,' vol. VII), the same form of table from Dr. Thurnam's work comparing the causes of mortality of the population at large, and of the Friends' Retreat, will be found. The principal difference in the result of the Retreat and Bethlem will be found in the larger per centage 59·195 as compared with 19·424 of deaths in class 2, *Diseases of the nervous system.*

§ VIII. *Judicial Psychology.*

The trial and execution, on the 8th of August, 1856, of William Dove, for the murder of his wife, will be in the memory of most of our readers as regards the facts of the case.

The trial and its results elicited very discordant opinions from our psychological authorities. Dr. Forbes Winslow—whose appearance generally in court, and his written opinions on medical legal cases of insanity, are of the most able, and themselves an index of the progress of psychological medicine when compared with similar efforts not ten years ago—has an article in the October number (new series, No. IV) of the ‘Psychological Journal’ on the case. Dr. Caleb Williams, of York, one of the witnesses examined for the defence, has published an essay ‘On the Criminal Responsibility of the Insane,’ founded mainly on this trial, and containing as an appendix a most careful report of it. Dr. Russell Reynolds has printed a pamphlet on the same question, ‘Criminal Lunatics, are they Responsible;’ while Dr. Bucknill, in the October number of the ‘Asylum Journal,’ devotes one of his leading articles to the consideration of this same trial.

38. Dr. Forbes Winslow's opinion on the case of William Dove.— The following letter, which appeared at the time in the ‘Globe’ newspaper, contains so able a summary of Dr. Winslow's opinion, that we here reprint it.

“23, Cavendish Square, Aug. 1st, 1856.

“My dear Sir,—Since my interview with you and Mr. Morley, late on Friday night, I have given the subject of our earnest conversation and long discussion, much anxious thought and consideration.

“You will recollect that at that interview I had no hesitation in expressing to you and Mr. Morley my decided and unqualified opinion respecting Dove's legal criminality. I have felt since his trial and conviction no sympathy for him, being strongly impressed with a notion that, if the punishment of death were under any circumstances justifiable, it should be carried into effect in Dove's case. I am bound, however, to confess, that after carefully and dispassionately weighing the additional facts laid before me by Mr. Morley and yourself illustrative of Dove's mental history, I have been induced somewhat to modify my opinion of the case. The words “defective intellect,” embodied by the jury in their verdict, as justifying their recommendation of Dove to mercy, are not, according to my apprehension, accurately descriptive or expressive of Dove's mental condition.

His case is one of *imbecility*. If Dove's intellect were only “defective” or weak in the *popular* signification of these terms, he ought to be viewed as a responsible person. It would be fatal to the best interests of society if mere “defect of intellect” were considered in our courts of law as a valid excuse or plea in criminal cases. God forbid that so dangerous a doctrine should ever be propounded by those usually called upon to aid, by their scientific testimony, the administra-

tion of justice. If this doctrine be advanced, by what means are we to gauge the strength of the human intellect? Who is to decide upon the psychological test or standard of mental or legal responsibility in such cases? The great mass of criminals have admitted weak intellects, defective understandings, perverted moral sense, and no just recognition of the difference between *meum* and *tuum*. Such persons are, nevertheless, rightly considered as responsible for their actions, and are justly punished when they violate the law.

"I think, however, the case of Dove may safely be removed from the category of healthy, sane, or even 'weak'-minded men.

"His conduct through life has been remarkably characteristic of imbecility or idiocy. It appears that his mental infirmity manifested itself in early life, and that those who were engaged in his educational training perceived a remarkable and obvious natural defect in the constitution of his intellect. His actions were not merely those of a wicked, vicious, or eccentric man, but they evidently sprung out of a stunted, irregularly developed, congenitally defective, and badly organized *brain* and *mind*.

"If Dove had been made, a short period before murdering his wife, the subject of a commission of lunacy, the question at issue being his competency to manage his property, what, I ask, would have been the verdict of the jury? If the fact of his writing letters in blood to the devil, his faith in the supernatural power and predictions of Harrison, the wizard; the tremendous influence which this 'weird' person obtained over him; his cruelties to animals; his having threatened to shoot his father, and afterwards himself; his cutting down his corn when quite green simply because his neighbour had cut his down when ripe; his recklessness of conduct, want of moral perception, his inability in early life to acquire ordinary knowledge, and other facts sworn to in evidence as illustrative of his sad mental state, were laid before an intelligent jury empanelled to try the question of Dove's mental soundness and ability to manage himself and his affairs, can any reasonable doubt be entertained as to the result of the inquiry? Upon evidence considerably less satisfactory and convincing than that adduced in Dove's case, I have seen juries unanimously decide as to the mental unsoundness of individuals. Consider, for example, the celebrated case of Mrs. Cumming. This lady was pronounced insane by a jury, among whom were several county magistrates, simply because she was fond of the society of a few favorite cats, had an impaired memory (no wonderful fact, considering her bodily indisposition and advanced age), and was alleged to entertain a strong aversion to some members of her family who had by force dragged her out of her own house, and confined her in a lunatic asylum. From my knowledge of the conduct of juries, I feel convinced that Dove never would have escaped the verdict of insanity if the question for their consideration had been of a *civil*, and not of a *criminal*, character—one of *property*, not of *life*.

"If Dove's mind was so unsound as to render him manifestly incompetent to manage himself or his affairs, ought he to be viewed as altogether responsible for any criminal act he might be guilty of? I use the word 'altogether' advisedly; for although I am willing to acquiesce in the wishes expressed by yourself, Mr. Morley, and others, to state in

writing an opinion adverse to carrying into effect the *extreme penalty of the law* in Dove's case, *I am bound to say that I shall deeply regret if he were in consequence of his alleged "defect of intellect" to be exempt from punishment or penal servitude for the remainder of his life.* I have no hesitation, however, in asserting that it would be a great and fatal mistake and a grave act of inhumanity to hang this wretched man. Considering the conclusive evidence of Dove's mental imbecility, his life, I think, ought not to be forfeited on the gallows.

"The absence of all symptoms of delusion or hallucination renders the case different from those of ordinary insanity with which our Courts of law have to deal, and consequently to those not practically cognizant with the insane, the somewhat anomalous case of Dove appears one most difficult of comprehension. The eye of the practical psychological physician views in this case one of *modified responsibility*. As in many instances of indictment for capital crimes, the jury records, with the view of saving life, the merciful verdict of 'manslaughter,' instead of 'murder,' in consequence of the criminal having been impelled to the commission of the crime by great provocation, or been led to imbue his hands in the blood of a fellow-creature, during a moment of intense and uncontrollable mental irritation; so what is designated by lawyers as 'partial' insanity, mental imbecility, or idiocy, when clearly and conclusively established, should invariably be considered as *greatly extenuating circumstances, or conditions of mind which should, in every case, absolve those so afflicted from the extreme penalty of the law.* I hope I have succeeded in clearly conveying to you and Mr. Morley my opinion of this deeply important case. If Dove were positively insane and quite incapable of distinguishing between right and wrong, I would send him to a lunatic asylum for the rest of his days, instead of to the hulks or to a penal settlement, but *recognising in his case a partial degree of responsibility, co-existing with much mental disorder, evidently interfering with the healthy exercise of thought, judgment, and volition*, it would be unjustifiable and cruel to treat him *like a perfectly sane man, or as an ordinary and responsible criminal, and consign him to the hands of the public executioner.*

"I pray to God that so revolting an exhibition may not be witnessed, and that your humane and praiseworthy exertions to save this man's life may be crowned with success.

"I remain, yours faithfully,
"FORBES WINSLOW, M.D."

39. *Dr. Bucknill's opinion on the case of Dove.*—"In our opinion, Dove's written confession, and his letters which were read in court, entirely disprove the assertion that he was a congenital imbecile. In summing up, the judge referred to the style of the prisoner's communications to his friends, their conciseness, coherency, and grammatical accuracy; and he asked the jury whether they could believe that he was a man who possessed but a glimmering intellect, and who was (as he had been described by the Wesleyan schoolmasters) as near an idiot as could be? Moreover, it appeared, that although he had committed some foolish and reckless acts in the management of his farm, yet, on the

whole, that he had managed the farm in a manner of which an idiot or an imbecile would have been incapable.

"The history of the crime itself entirely disproves the allegation of imbecility. The plot of the murder was laid with great precaution and deliberation, indicating no mean degree of calculation and foresight. In the perpetration of his last crime, Palmer was a bungler compared with Dove. Dove indeed laboured under the disadvantage that Mr. Morley discovered strychnine in the body of his victim, while Professor Taylor not only failed in his analysis, but declared that success was impossible. And yet we are asked to believe that this man, who obtains and uses his instrument of destruction with a remarkable degree of foresight, cool determination, and skill, that this man is a congenital imbecile—as near an idiot as may be. The only legal dictum which will bear upon imbecility is that of chief justice Hale, that "one who hath as great understanding as a child of fourteen years ordinarily hath," is responsible for criminal actions. That William Dove had this amount of understanding no one can doubt. Therefore, of the two theories propounded respecting Dove's insanity, we believe that the one of congenital imbecility is quite untenable; and that the one propounded by the counsel for the defence, is the only one having a shadow of probability. That theory was, 'that from his youth he had suffered from *moral insanity*, which had developed as his life had progressed, and had ultimately manifested itself in the dreadful crime with which he was charged.' This appears to have been the theory by the medical witnesses, with the additional explanation that the crime itself resulted from an uncontrollable desire to take life. Now it must be admitted, that the chain of circumstances selected from Dove's previous history, and proved in the defence, nearly resemble those acts which some writers upon mental disease have described as proofs of moral insanity; but they also resemble the acts of recklessness, cruelty, and malice, which have been often described as the marks of a depraved boyhood, and which may not only be found in the records of the 'Newgate Calendar,' but in the vicious members of any large school.

"How are such acts to be distinguished as occasioned by disease, or as resulting from depravity? The most trustworthy indication that they are the result of disease is afforded by the manner of their appearance. Dr. Pritchard, the first English writer on Moral Insanity, refers pre-eminently to its causes as an indication of its nature. 'There is often,' he says, 'a strong hereditary tendency to insanity; the individual has previously suffered from an attack of madness of a decided character; there has been some great moral shock, as a loss of fortune, or there has been some severe physical shock, as an attack of paralysis, or epilepsy, or some febrile or inflammatory disorder which has produced a perceptible change in the habitual state of the constitution. *In all cases there has been an alteration in the temper and habits.*' The able and learned inventor of moral insanity was never bold enough to assert that immoral and vicious acts could, by themselves be accepted as proofs of mental disease; he never went further than to accept them as symptoms of disease, the existence of which he inferred from the nature of its causation.

"If Dr. Pritchard's opinions on the subject of moral insanity had

been accepted in our courts of law (which they never have been), the case of Dove could not have been made to tally with them, because the vicious acts proved in his defence were not in any way capable of being referred to any diseased processes, or to any cause of diseased processes, nor was there at any time any 'alteration in the temper and habits.' He was traced from the age of seven years upwards, as a wilful, passionate, mischievous, and cruel boy. And unless every such boy is to be reckoned in the ranks of the insane, the defence proved too much for its own theory. Moreover, the manner of the crime was wholly inconsistent with the theory of uncontrollable impulse. Had Dove in an excess of rage shot his wife with the revolving pistol with which he often threatened her and himself, or taken her life in any other sudden and impulsive manner, the theory of uncontrollable impulse, founded upon that of moral insanity, might have been propounded to explain the act with some show of reason. But the manner of the act was wholly different: it was proved not only to have been in contemplation, but in preparation for weeks before the catastrophe. Inquiries were made respecting the chances of discovery, and finally, when the poisoning process was commenced, five times was the horrible drug given, at intervals of a day or so, and in doses only sufficient to disarm suspicion, by producing the resemblance of disease. The friends of the unhappy woman were written to, to induce them to expect her death as the result of disease; and then the finishing dose was given, and the wretched victim of his hate, expired in the dreadful agonies of strychnine tetanus. This calculating, deliberate, and prolonged arrangement of his crime, is as inconsistent with the theory of uncontrollable impulse, as it is with that of imbecility. The circumstances of the crime themselves proved, not only mental capacity and deliberate forethought, but they also proved the consciousness of wrong doing, and the fear of punishment.

"If the criminal laws of this country are not based upon absurdities, are not the shadow of a sham, and rotten at the core, the cruel and dissolute wretch who destroyed his wife by the inconceivable tortures of six doses of strychnine, richly deserved to feel the weight of retributive justice.

40. *Dr. Caleb Williams's opinion on the case.*—We make the following extracts from Dr. Caleb Williams's essay on the 'Criminal Responsibility of the Insane.'

"With the evidence adduced from various sources there is no difficulty in arriving at the conclusion that Dove was a man of unsound mind: and that his insanity was in *kind* and *degree* such as to deprive him, on very many occasions in the course of his life, of the power of self-control, and to subject him to the influence of propensities and impulses alike dangerous to himself and to others. In order to establish the fact that a man is insane—that he is of unsound mind—that he is not responsible for his actions, it is not necessary to prove the existence of any 'illusion, or erroneous conviction impressed upon the understanding,' because insanity, and homicidal insanity itself, is often characterised merely by a perversion of the moral faculties, the feelings, the emotions or affections; and this disordered state of the moral faculties may exist without any

obvious disturbance of the intellectual functions. Indeed, as I have stated in the remarks on the case of Hill, ‘there are madmen in whom it is difficult to discover any trace of hallucination, but there are none in whom the passions and moral affections are not disordered, perverted or destroyed.’ And this condition of the moral faculties incapacitates the individual from taking part in the common affairs of life without great risk to those around him, it deprives him of his free agency, and frequently renders him as irresponsible for his acts as the maniac who stabs his neighbour under a confirmed delusion.

“Now, under any of the circumstances—in any of the conditions which are here described, from the mildest to the severest form of mental unsoundness, can it be asserted that the person so affected is fully responsible for his acts?—that punishment should be meted out to him as to ordinary criminals? I am free to admit that insanity does not in every case, and under all circumstances, annihilate responsibility. It is one of the great objects of those who have the care of lunatics to train them by a judicious system of moral management—to exercise self-control, and thus to enable them to repress and restrain those ebullitions, which in common life are often so fearful and fatal in their consequences. And in this way to impress them as much as may be with the feelings of responsibility, and to quicken their perceptions of right and wrong.

“In most forms of insanity, however, the moral sense, the perception of right and wrong, is so far obscured or perverted as greatly to lessen the culpability of the party, and in some forms of mental disorder the moral perception is so completely destroyed that no power of distinguishing right from wrong remains, and in which the individual ceases altogether to be a responsible agent. The degree of responsibility in the same person differs greatly according to circumstances—such as the actual condition, physical and mental, of the person at the time of the commission of the crime; the amount and nature of the causes which led to it. And hence the degree of responsibility can only be determined by a careful inquiry into the medical and moral history of the accused, the circumstances which preceded, accompanied, and followed the criminal act.

“Shades of guilt and degrees of culpability are often points at issue in Courts of Justice, as when a charge of murder is brought down to manslaughter. It is the more remarkable therefore when a plea of insanity is urged, the witnesses are compelled to adhere to the old formula, a *consciousness of right and wrong*, and to give a categorical answer to the question, whether the individual had a consciousness of right or wrong at the time he committed the particular act with which he is charged.

“A very superficial examination of this subject, and a very slight experience in such cases will show that this is a very imperfect test of responsibility, and that it would tend greatly to further the ends of justice, and to secure the conviction of real offenders, to revise these laws which might long ago have been considered obsolete. The tenacity with which our courts of law cling to them affords a striking illustration of the correctness of those words of Bentham:—‘Lawyers delight in plodding on in paths which reason has never trodden, or having trodden has forsaken.’

“These views of responsibility have been spoken of as refined speculations, and stigmatised as theories and notions which were inapplicable to

the realities of life, and altogether useless in practice. The answer to this is—that they have been held by men who stood in the first ranks as literary and scientific characters, who had large opportunity of observation, and many of whom had acquired a more than European reputation by the vigour of their understandings and the value of their writings."

41. Recapitulation of Dr. Russell Reynolds' view of the criminal responsibility of the Insane.

- I. Sanity of mind is the correct appreciation of things as they are, viz.:
 - A. The recognition as truth of what exists as fact.
 - B. The recognition of the obligations of right and wrong.
 - C. The recognition of the greatest good as the strongest motive.
- II. The proof of sanity is the concurrence of the individual with the race or people to whom he belongs: because
 - A. The general belief of humanity is the correct statement of—
 1. What are facts.
 2. What are duties,
 - a. In the abstract, and
 - b. In regard of social relations.
 3. What are advantages.
 - B. The sane man is supposed to desire truth, duty, and advantage.
- III. The sane man is responsible for
 - A. The condition of his mind in regard of
 1. Truth or facts.
 2. Duties or obligations.
 - a. To God (morality).
 - b. To his fellow-man (social obligation).
 3. Advantages (choices).
 - B. The determination of his actions, because
 1. It is in his power to know.
 2. His will is free to choose.
- IV. Insanity is the absence of those qualities which constitute sanity, resulting in
 - A. The non-appreciation of facts.
 - B. The non-recognition of duty.
 - C. The non-perception of advantage.
- V. The proof of insanity is the non-concurrence of the individual with the race.
 - A. In regard of facts (delusions, illusions, &c.)
 - B. In regard of duty (loss of moral sense).
 - C. In regard of advantage (impulsive conduct).
- VI. The responsibility of the insane.
 - A. For the condition of his mind.
 1. The insane man is responsible for insanity which is his own fault (drunkenness, vice, temper, &c.)
 2. He is not responsible when it arises from
 - a. Physical unavoidable disease.
 - b. Psychical unavoidable disturbance.

b. For his actions.

1. The insane man is responsible
 - a. When the action has no discoverable relation to the derangement.
 - b. When there is no evidence of insanity beyond that of the act committed.
2. He is not responsible
 - a. When the actions result directly from the delusion.
 - b. When the whole tenor of the mind is deranged.
- c. He is as responsible as the sane when his insanity is his own fault.
- d. He is not equally responsible under any other circumstances.

VII. The treatment of the insane.

- a. When non-criminal is
 1. To protect society by his restraint.
 2. To place him in the most favorable circumstances for improvement.
- b. When criminal,
 1. He is to be proved insane.
 - a. By the distinction of sanity from insanity.
 - b. By the distinction of insanity from pretended madness.
 2. His responsibility is to be discovered,
 - a. By an examination of the cause of his insanity.
 - b. By a recognition of its relation to the act.
 3. His degree of responsibility is to be affixed.

[Note.—Since this Report was sent to the printer's the '*Report by Her Majesty's Commissioners appointed to inquire into the state of Lunatic Asylums in Scotland*' has been presented to both Houses of Parliament by command of Her Majesty. Our limits do not allow us at present to do more than notice its appearance. Our readers will probably have observed that the subject has already attracted considerable notice in Parliament, and that the Lord Advocate for Scotland has brought in a Bill based on the facts brought to light in this Report, which we trust may result in affording to the insane paupers in Scotland that protection which they now apparently stand sadly in need of.]

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INDEX TO VOL. XXV.

	PAGE
ADDISON on the "rose spots" in fever	10
ALISON on the sphygmoscope	98
on the change which has taken place in the treatment of inflammation	253
Amputation, on the flap and circular modes of	149
by caustics, on	279
Amputations and excisions, relative mortality of	150
Amylene as an anæsthetic, on the use of	283
Anæsthetics, on some remote effects of	148
Anchylosed surfaces, on the forcible extension of partially	146
ANDERSON on the Kameela as an anthelmintic	327
Aneurism by manipulation, on the treatment of	276
Anus, tannin and glycerine in fissure of the	182
Apneumatosis, diagnosis of	245
ARAN on two cases of thoracentesis	69
ARNETT on camphor in strychnia-tetanus	50
Arsenic in rheumatic gout, on	29
Arteria innominata, case of ligature of the	287
Artery, case of rupture of the middle meningeal	46
Asphyxia, on the injurious effects of the warm bath in	89
of new-born children, on the treatment of	221
AYRES, successful reduction of dislocated cervical vertebrae	176
 BAINES on "tache meningitique"	130
BALLARD on pepsine	320
BANKS on gangrene of the liver	104
BARWILL, case of cancer removed by a painless method	229
BASHAM on hæmaturia in scarlet fever	26
on hæmaturia caused by mental emotion	107
BEGBIE on persistent sarcina in urine	117
BELL on the cause of the prolonged expiratory murmur in phthisis	259
Belladonna in hooping-cough, on	68
in arresting the secretion of milk, use of	220
in incontinence of urine	247
BENNETT on the change which has taken place in the treatment of inflammation	253
BEQUEREL on the employment of electricity in the suppression of milk	219
BERTEL, case of vesico-vaginal fistula treated by bruising the parts	242
BICKERSTETH on excision of the shoulder-joint	288
Birth after the death of the mother, case of	216

	PAGE
Bladder, from over-distension, rupture of the	119
Blood, influence of mental labour upon the	42
on transfusion of	268
BLOTH on the presence of sugar in the urine during nursing, and occasionally during pregnancy	304
BOINET on the treatment of ovarian cysts by iodine injections	295
BOUCHARDAT on iodoform	326
Bowels, on puncture in impassable obstruction of the	291
BOYD on the influence of season upon the mortality from brain-disease	41
BRADY on 132 cases of thoracentesis	70
Brain-disease, influence of season upon mortality from	41
Bran-loaf in diabetes, on the	116
BRINTON on a case of peri-tracheal deposit	83
on glycerine and borax in cracked tongue	100
on ulcer of the stomach	259
BRIQUET on the age at which hysteria is developed	225
BRITTAN on atrophy of limited groups of muscles	35
BROCA on the treatment of bubo	188
BRODHURST on the forcible extension of partially ankylosed surfaces	146
case of fracture of the neck of the scapula, &c.	178
a peculiar displacement of the scapula	179
BROOK, cases of incontinence of urine treated by belladonna	247
BROWN on sterility	226
Bruit caused by open foramen ovale, on a	93
Bubo, on the treatment of	188
BURROWS on the use of belladonna in arresting the secretion of milk	220
BUTCHER on the cancerous degeneration of warts	142
on excision of the knee-joint	208
Calcis, cases of excision of the os	213
CAMPLIN on the bran-loaf in diabetes	116
Cancer, on the constitutional treatment of	30
to tubercle, on the relation of	32
on	139
removed by a painless method	229
and its treatment, on	273
Camphor in strychnia-tetanus	50
Cataract to heart-disease, the relation of	91
in gouty persons, on the operation for	160
Catarrh, on the pathology of	64
Caustics, on amputation by	279
CAZEAU on cysts of the ovary	298
Cerebellum, case of abscess in the	45
Cerebral abscess, on	43
Cervix uteri, on blistering the	230
Change of life in health and disease, on the	299
Charcoal in epidemic measles and cholera	23
CHASSAIGNAC on rheumatic tenosynitis	30
Chloroform in delirium tremens	48
on deaths following the inhalation of	281
Choking, on the "ready method" in	175
Cholera, charcoal in epidemic	23
Chorea, and its affinity to rheumatism, on	51

	PAGE
Chorea, by splints, on the treatment of	53
Cold water, on the effects of the long-continued application of	332
Conjunctiva, on the treatment of granular	152
COOKE on the constitutional treatment of cancer	30
COOPER on the operation for cataract in gouty persons	160
on hæmorrhage from the eyeball	160
on puncture in impassable obstruction of the bowels	291
COOTE on the treatment of varicose veins by caustics	144
COWDELL on the use of belladonna in incontinence of urine	248
Cranial presentations and positions, on	302
Crimea, our losses in the	4
on the climate of the	7
Croup, on tracheotomy in	61
CRUVEILHIER on cysts of the ovary	298
 DECLAT on the treatment of neuralgia by valerianate of ammonia	56
Delirium tremens, on chloroform in	48
Diabetes, on the bran-loaf in	116
Diarrhœa, on ergotine in epidemic	107
DICKINSON on the effects of long-continued application of cold water	332
DIDAY, how to prevent the fear connected with an operation	287
DIXON on the prevention of quininism	325
DRAPER on the red line of the gum in phthisis	73
DUMAS on iodoform	326
DUPIERRIS on the injection of iodine in uterine hæmorrhages	230
DUPUY, case of abscess in the cerebellum	45
 Ear, on the pathology of the	164
after violence to the chin, on bleeding from the	165
Elbow-joint by a single incision, resection of	199
EMMET on œdema glottidis in typhus	64
Emphysema, on vesicular	86
Epidemic diseases, remarks on some	22
Epilepsy, on biniodide of mercury in	48
Ergot of wheat, on the	328
Ergotine in epidemic diarrhœa	107
ERICHSEN on resection of the elbow-joint	199
on excision of the hip-joint	200
Expiratory murmur in phthisis, on the cause of prolonged	257
Eyeball, on sympathetic inflammation of the	159
on hæmorrhage from the	160, 161
 FELL on cancer and its treatment	273
FENNER on the treatment of granular conjunctiva	152
Fever, on the rose-spots in	10
examination of the urine in	12
prevalent in London, remittent	19
salt in intermittent	29
on œdema-glottides in	64
on puerperal	217
Femur, American splint for fracture of the	204
FERGUSSON on resection of the elbow-joint	199
on the treatment of aneurism by manipulation	276

	PAGE
FIELD on rupture of the bladder from over-distension	119
FOLLIN on the use of perchloride of iron in panniform keratitis	155
Food, on the composition and adulteration of	311
FRIEDREICH on the diagnosis of pulmonary cavities	82
FULLER on arsenic in rheumatic gout	29
on biniiodide of mercury in epilepsy	48
on tracheotomy in croup	61
Furunculoid, on contagious	125
 Gangrene, topical application of iodine in hospital	139
GARROD on the pathology of mellituria	109
on the collateral symptoms of mellituria	111
on gangrene in connection with mellituria	112
on the prognosis of mellituria	113
on the treatment of mellituria	114
GERDY on the radical cure of unstrangulated hernia	192
GIBSON on the use of pessaries in prolapsus uteri	234
GLOVER on iodoform	326
Glycerine as a nutrient	317
GODEFROY, case of retroversion of the uterus, in which reduction was facilitated by inverting the patient	301
GORDON on the Kameela as an anthelmintic	327
GOSSELIN on the treatment of ranula	173
Gouty kidney, on	264
GRAHAM on the operation for strabismus	163
GREENHOW, cases of excision of the os calcis	213
GROSS, case of dislocation of the head of the tibia forwards	210
Guano in skin-diseases	138
 Hæmaturia produced by mental emotion	107
in scarlet fever	26
Hæmorrhage from the eye-ball	160, 161
Hæmostatics during operations, on the use of	151
HALL on artificial respiration	87
on the injurious effects of the warm bath in asphyxia	89
on the ready method in choking	175
on the treatment of asphyxia in new-born children	221
HAMILTON on the inutility of depletion in syphilitic iritis	156
Hare-lip, on a new suture for	168
HARGREAVE on the flap and circular modes of amputation	149
HARRISON on perforating ulcer	101
Heart was wounded curiously, case in which	179
Heart-disease, on the relation of cataract to	91
HELM on dislocation of the spleen	106
Hernia, valvular nature of strangulated	181
on the radical cure of unstrangulated	192
HERNOUX, case in which the heart was wounded curiously	179
HEWITT on the diagnosis of apneumatosis	245
HIGGINSON on transfusion of blood, with the description of a suitable instrument	268
HILLIER on London milk	9
Hip-joint, on resection of the	200
HOLMES on deaths following the inhalation of chloroform	281

	PAGE
HOOKER on abstinence from fatty food as a cause of phthisis	317
Hooping-cough, on belladonna in	68
HUGUIER on cysts of the ovary	298
HUMBLE on the utero-abdominal tourniquet	217
Humerus by manipulation, reduction of dislocated	198
HUTCHINSON, a rectangular catheter-staff for lithotomy	194
Hydatid-sound, on the diagnostic value of	39
Hydrocele, remarkable case of	186
Hysteria is developed, age at which	225
 Infants, on the suckling and feeding of	222
Inflammation, on the change which has taken place in the treatment of	253
Injection of morphia in neuralgia, on	58
Innominata, successful ligature of the arteria	287
Iodoform, on	326
Iritis, on the inutility of depletion in syphilitic	156
IVANCHICH, results of 100 cases of lithotrity	197
 JENNER on vesicular emphysema	86
JOHNS on blistering the cervix uteri	230
JOHNSON on the use of belladonna in incontinence of urine	248
JONES on the effects of long-continued application of cold water	332
JORDAN on the relation of cataract to heart-disease	91
 Kameela as an anthelmintic, on the	327
KENNARD on veratria and morphia in incontinence of urine	120
Keratitis, on the use of perchloride of iron in panniform	155
Kidney, on gouty	267
Knee, case of amputation through the	205
Knee-joint, on excision of the	208
KÜTTNER on the suckling and feeding of infants	222
 LANGENBECK on the subcutaneous administration of medicine	324
LARREY, the most eligible spot for amputation of the leg	211
Laryngismus stridulus, or partial narcotism	53
LAURENCE on the relation of cancer to tubercle	32
on cancer	139
LAYCOCK on contagious furunculoid	125
LEBERT, on cerebral abscess	43
LEE, case of quasi-phlegmasia dolens	243
Leg, the most eligible place for amputation of the	211
LEGGATT on progressive degeneration of muscle	33
LENTE on some remote effects of anaesthetics	148
LETTLE on the "hydatid-sound"	39
LEUDET on the influence of cerebral maladies on mellituria	110
LINDSAY on glycerine as a nutrient	317
LISTER, a remarkable case of hydrocele	186
Lithotomy, a rectangular catheter-staff for	194
Lithotrity, results of 100 cases of	197
LITTLE, case of subclavian aneurism treated by manipulation	276
Liver, on gangrene of the	104
LYMAN on the history and statistics of ovariotomy	238

	PAGE
MACDONNELL , a case of scleroma	136
MACLEOD , case of retroversion of the uterus	236
Magnetism of the body, and the magnetic action of remedies, on the	324
MAISONNEUVE on the use of haemostatics during operations	151
MANGENOT on the topical application of nitrate of potass to certain erectile tumours	143
Mania , on arsenic in intermittent	47
MANOURY on amputation by caustics	279
MANSFIELD on the American splint for fracture of the femur	204
MARCEP on the composition and adulteration of food	311
MARCHAL on gangrene in connection with mellituria	112
MARKHAM on the "hydatid-sound" on a bruit caused by open foramen ovale	39 93
MARKOE , case of amputation through the knee	205
MAROTTE on palpation of the abdomen in internal strangulation	180
MASFEN on the use of belladonna in incontinence of urine	248
MARSHALL on the treatment of warts by chromic acid	183
MASSOLA on ergotine in epidemic diarrhoea	107
MARSTON , cases of pneumatosis	97
Materia Medica , on the	306
Measles , charcoal in epidemic	23
Mellituria , on the pathology of influence of cerebral maladies on	109 110
on the collateral symptoms of	111
on gangrene in connection with	112
on the prognosis of	113
on the treatment of	114
on a new mode of treatment in	115
Mental labour upon the blood, effects of	42
Metatarsus upon the tarsus, case of dislocation of the	213
Milk , electricity in suppression of on the use of belladonna in arresting the secretion of	219 220
on London	9
MILROY , remarks on some epidemic diseases	22
MINONZIO , case of dislocation of the metatarsus upon the tarsus	213
MONAHAN on the treatment of chorea by splints	53
MONTGOMERY on a case of prolapsus of the pelvic viscera	233
MOREAU on arsenic in intermittent mania	47
MOROSCHIN on salt in intermittent fever	29
Morphia , tetanoid symptoms arising from	49
MORVAN on bleeding from the ear after blows on the chin	165
MURPHY on puerperal fever	217
Muscle , on progressive degeneration of on atrophy of limited groups of	33 35
NELATON on the ligature of arteries in suppurating wounds	144
Nervous disorders , on certain local	59
Neuralgia by valerianate of ammonia, treatment of on the local injection of morphia in	56 58
NORMAN on the treatment of strabismus	162
Œdema glottidis in fever, on	64
OLIVER on the local injection of morphia in neuralgia	58

	PAGE
Operation, how to prevent the fear connected with an	287
Ovarian cysts by iodine injections, on the treatment of	295
Ovariotomy, on the history and statistics of	238
Ovary, on cysts of the	298
 PAGET on partial narcotism in laryngismus stridulus	53
on resection of the elbow-joint	199
Palpation of the abdomen in internal strangulation	180
Pains, on infra-mammary	228
PARKES on the condition of the urine in fever	12
PEACOCK on remittent fever in London	19
PEIXOTO, case of successful ligature of the arteria innominata	287
Penis, curious case of partial amputation of the	183
Pepsine, on	320
Pericardii, two cases of paracentesis	95
Pertes séminales, on the treatment of	122
Pessaries in prolapsus uteri, use of	234
Phlegmasia dolens, case of quasi-	243
Phthisis, on the cause of the prolonged expiratory murmur in	257
abstinence from fatty food as a cause of	317
on the red line of the gum in the diagnosis of	73
on the pretubercular stage of	76
on the nature of	76
PIORRY on a new mode of treatment in mellituria	115
Pneumatosis, cases of	97
Pork, on Calcutta	10
Prolapsus of the pelvic viscera, case of	233
Prostate, anatomy and pathology of the	189
Psoas abscess, on the spontaneous cure of	293
Psychological medicine, report on	335
Puerperal fever, on	217
Pulmonary cavities, on the diagnosis of	82
 Quininism, on the prevention of	325
 Ranula, on the treatment of	173
Rectum, on the prevention of bleeding after operations upon the	182
Regurgitation of food, on	101
Remittent fever in London, on	19
of children, the	243
Renal tubuli with urates, infarction of	247
Respiration, except in the prone position, danger of artificial	87
REUSS on circumscribed atrophy of the skin	130
Rheumatic gout, on arsenic in	29
tenosynitis, on	30
RHUID on the magnetism of the body and magnetic action of remedies	324
RICHARDSON on chloroform in delirium tremens	48
ROBERT on the ergot of wheat	328
ROBERTSON, report on psychological medicine	335
ROBINSON on certain local nervous disorders	59
ROSER on the valvular nature of strangulated hernia	181
ROSS on the secondary eruption following vaccination	133
ROWARD on the prevention of pitting in smallpox	131

	PAGE
SALMON on the prevention of bleeding after operations upon the rectum	182
on amputation by caustics	279
SALTER on the pathology of catarrh	64
SAUNDERS on the red line of the gum in phthisis	73
Scapula, &c., fracture of the neck of the	178
peculiar displacement of the	179
case of removal of the	290
Scarlet fever, on hæmaturia in	26
SCHILLINGER, case of birth after the death of the mother	216
SCHRAMLI on guano in skin-diseases	138
Scleroma, case of	136
Season upon mortality from brain-disease, influence of	41
SEATON on vaccination	1
SHEARMAN on tetanoid symptoms arising from morphia	49
Shoulder-joint, on excision of the	288
SIEVEKING on lead in the urine in lead-poisoning	121
on pepsine	320
SIMPSON on a mode of removing tumours	143
on infra-mammary pains	228
on sulphate of zinc as a caustic	329
Skin, on circumscribed atrophy of the	130
Smallpox, on the prevention of pitting in	131
SMART on the climate of the Crimea	7
SMITH on the nature of phthisis, and particularly of the pre-tubercular	
stage	76
on the treatment of phthisis	77
on certain consequences of carious teeth	170
on the remittent fever of children	243
on the use of belladonna in incontinence of urine	247
SNELL on chorea and its affinity to rheumatism	51
SNOW on the use of amyrene as an anaesthetic	283
Spasm, on certain forms of tonic	55
Sphygmoscope, on the	98
Spleen, on dislocation of the	108
Strabismus, on the treatment of	162
on the operation for	163
Sterility, on	226
Stomach, on ulcer of the	259
Strangulation, on palpation of the abdomen in internal	180
Stricture, a new way of operating for impermeable	195
by guides and tubes, treatment of	196
Strychnia, camphor an antidote for	50
Suckling and feeding of infants, on the	222
SURDUN on the topical application of iodine in hospital-gangrene	139
SYME on impermeable stricture	195
case of removal of the scapula	290
Subcutaneous administration of medicine, on the	324
"Tache meningitique," on	130
TAYLOR on regurgitation of food	101
Teeth, on certain consequences of carious	170
Tetanoid symptoms arising from morphia	49
THOMPSON, effects of mental labour upon the blood	42

	PAGE
THOMPSON on the anatomy and pathology of the prostate	190
Thoracentesis, on two cases of	69
a report on 132 cases of	70
THORNTON on the relative mortality of amputations and excisions	150
Tibia, dislocation of the head forwards	210
TILT on the change of life in health and disease	269
TOBIESON on certain tonic spasms	54
TODD on diseases of the urinary organs and dropsies	294
Tongue, glycerine and borax in cracked	100
Tourniquet, on the utero-abdominal	217
TOYNBEE on the pathology of the ear	164
Tracheotomy in croup, on	61
on a grooved hook for	173
Transfusion of blood, on	268
TROUSSEAU , a case of paracentesis pericardii	95
on the treatment of pertes séminales	122
TULLOCH on our losses in the Crimea	4
Tumours, on a mode of removing	143
on the topical application of nitrate of potass to certain	143
TURNBULL on belladonna in hooping-cough	68
Tympanum, a self-adjustable artificial	166
Ulcer of the stomach and bowels, on perforating	101
Urine in fever, examination of	12
in fever, effects of coffee upon the	12
on persistent sarcina in the	117
veratria and morphia in incontinence of	120
in cases of lead-poisoning, lead in the	121
belladonna in incontinence of	247
during nursing and occasionally during pregnancy, on the normal presence of sugar in the	304
Uterine haemorrhages, on the injection of iodine in	230
Uterus, case of retroversion of	236
in which reduction was facilitated by inverting the patient, case of retroversion of the	301
Vaccination, on the protective and modifying power of	1
a secondary eruption following	133
VAN HOLSBEK on the use of tannin and glycerine in fissure of the anus	182
Varicose veins by caustics, on the treatment of	144
VELPEAU on cysts of the ovary	298
VERNAY , a case of paracentesis pericardii	95
Vertebræ, dislocation of the cervical	176
Vesico-vaginal fistula treated by Bozeman's suture, case of	240
bruising the parts	242
WAKLEY on the treatment of stricture by guides and tubes	199
WALLACE , case of vesico-vaginal fistula treated by Bozeman's suture	247
WALTON on sympathetic inflammation of the eyeball	150
on haemorrhage from the eyeball	161
Warts, on the cancerous degeneration of	142
by chromic acid, on the treatment of	183
WATSON , case of rupture of the middle meningeal artery	46

	PAGE
WELLS on a grooved hook for tracheotomy	173
WEST on cranial positions and presentations	302
WILLSHIRE on infarction of the renal tubuli with urates	247
WILSON on the use of charcoal in epidemic measles and cholera	23
WOOD on a new suture for hare-lip	168
on the <i>Materia Medica</i>	306
WORMALD, curious case of partial amputation of the penis	183
reduction of dislocated humerus by manipulation	198
Wounds, on the ligature of arteries in suppurating	144
YEARSLEY, a self-adjustable artificial tympanum	166
Zinc as a caustic, on sulphate of	329



